THE FARMER'S MAGAZINE:

AUGUST 1807.

(No. XXXI.)

BRANCH I.

ORIGINAL COMMUNICATIONS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Farm-Offices, with a Plate.

SIR,

I HAVE repeatedly perused, with pleasure, your intelligent correspondent R. r. r.'s Letter on the Construction of Farm-Yards, inserted in your useful Magazine for May 1805, and beg leave to return him my thanks for the many valuable hints that I have received from it.

I trust, however, that he will not be offended at my pointing out, what I think to be errors in his plan; and if any remarks of mine, or the enclosed sketch of my ideas of a convenient set of farm-offices, can anywise assist him, when he comes to erect his own buildings, it will give me great pleasure.

I cannot entirely agree with your correspondent's reasons for not giving a table of references; for, though his plan distinctly points out the situation of the several conveniences, there still appears a want, in not being immediately made acquainted with their dimensions, without the trouble of applying the compasses to the scale; a frequent repetition of which must soon destroy it; and the plate, in order to suit the size of your Magazine, is obliged to be drawn by so small a scale, as to render it no easy task to be exact in taking the smaller divisions.

I cannot miss this opportunity of testifying my regret at many recent publications being rendered useless, by their plates having

neither a scale nor a table of references to resort to; and the purchasers of such works have great reason to complain of being deprived of the instruction they were taught to expect from the title-pages.

Your correspondent's thrashing-mill is, I think, misplaced, though I must acknowledge, that I do not perfectly comprehend the plan, as it differs so much from any one that I have chanced to see. All the large thrashing-mills I am acquainted with, have uniformly thrown the straw, after it was thrashed, to the opposite end from the chaff-house: if the horse-gang (or track) had been placed at the north-west end of the barn, instead of being thrust into a corner, the mill would more readily throw the straw into the straw-house, and the horses would perform their work with less detriment to themselves, by enjoying a freer air, which is essentially necessary for them while employed in this hard labour.

If my admeasurement of the stables is just, there is too little room for the number of horses proposed to be placed in them, there being only a space of 4½ feet allowed to each. I know this is the size allowed by many writers on husbandry; but, notwithstanding, I think that I am justified by experience in saying, that 5½ feet are scarcely sufficient, and that 6 feet are not more than necessary.

The evils accruing from these overstretched economical plans, cannot, I am convinced, be easily estimated, though they are too commonly overlooked; or, if the mischiefs occasioned by them happen to be noticed, they are generally attributed to some other cause, while the true one proceeds from their ill-judged parsimony. Horses that are hard wrought require sufficient room to repose themselves without molestation, so as they may recover from their fatigue, before they be again brought out to resume their daily labour.

I am too little acquainted with the Gloucestershire ox-stalls, to pretend to be an adequate judge of their merits or demerits; but I must confess that I entertain doubts of the propriety of adopting them in this country, as the reasoning of that eminent farmer and grazier Mr Peacy, in the Cotswoldhills, Gloucester, appears to me to be just. 'His method of stall-fatting,' says Mr Marshall, 'merits particular notice. His fatting cattle are all *tied up*; some in single, some in double stalls. His reason for this practice is not altogether that of saving room; he is clearly of opinion that they do better, and fat faster than bullocks which are kept in loose stalls. His reasoning is fair. Besides the indisputable advantage of their not being liable, in this case, to foul their meat and water; he holds out another which is not so obvious,

vious, but may nevertheless, perhaps, be equally true. Cattle which are tied up, are more *cadish* (tamer, less wild,) than those which are kept in loose stalls. A loose bullock (some loose bullocks at least), when a stranger enters the shed, or any disturbance happens in it, will rise and fly into the yard for refuge; while a bullock, which knows that he has not the power of flight, will lye still, and chew his cud. In the yards, loose bullocks are equally liable to disturbance; and quietness is no doubt essential to quick fatting.

'Each bullock has two troughs; a small one for corn; a large one for hay; with a water-trough, which runs the whole length of the shed, and is covered by a board; each bullock having a hole (large enough to admit the nose) to drink at. The water-trough (a hollow tree) forms, as it were, a top rail to the partition wall of the gang-way. The others are beneath it, nearly level with the bed of the stall.' (P. 76, vol. 2d, of Marshall's Rural Economy of Gloucestershire.)

I rejoice to perceive, that conveniences in farm-buildings are beginning to be attended to. Formerly, the tenants only required a certain quantity of barn-room, stables and byres, of small dimensions; and the landlord's sole attention was to get these buildings executed at as little expense as possible.

A false idea of economy pervaded the whole; and the loss, in the end, fell (as it ought to do) principally on the landlord.

It gives me great concern to find, from R. r. r.'s letter, that it is now become customary to place the farm-house at some distance from the yard.

The site of a farm-house ought, if possible, to command a view of the greatest part of the farm,—a pleasing, as well as the proper prospect for the farmer's principal room; at the same time, one of the windows should overlook the yard. Nothing tends more to keep servants to their duty, than the conviction of a probability of their master seeing what is going forward on every part of the farm, even at the time they know he is enjoying the company of his friends. Farmers ought to disdain the company of those who are annoyed by the sounds of a thrashing-mill, or disgusted at the appearance of a farm-yard.

In my plan, I have endeavoured to place the doors of as many of the offices as possible in view of the master's apartment.

The landlord should not be put to the expense of needless building; at the same time, the farmer ought to have what is sufficient to accommodate the number of cattle adapted to the size of the farm.

The enclosed sketch of a plan is made out for a farm of 300 acres, which admits of the turnip husbandry.

The quantity of buildings necessary for the size of the farm, and the placing of them properly, according to their sites, ought to be well considered before any plan is adopted.

There should be rather more stabling than what is barely sufficient for the number of horses or oxen absolutely requisite for the culture of the farm.

Every convenience ought to be given that can anywise expedite the business, and lessen the expense of the farmer: no illiberal economy should infringe on the plan. On the other hand, every useless expense, or superfluous ornament, (even for the farm-offices of an opulent landlord), ought to be studiously avoided.

I am inclined to think, that many gentlemen who have not been accustomed to consider, with all due attention, the quantity of buildings indispensably necessary for carrying on the farming business, are apt, on seeing a plan of a set of offices placed contiguous one to another, to form a hasty conclusion, that the expense must be enormous, and that the number and size of the buildings ought to be curtailed; when, perhaps, had these very gentlemen viewed the same buildings on separate pieces of paper, they would have unequivocally declared that they were absolutely necessary for the farm, and that not a single one could possibly be omitted.

The height of the barn, drawn on the plan of the one built at Lornshill, with the several divisions necessary for machinery, and the unthrashed grain, &c. &c. have probably made your correspondent A. G. (page 248. of your 3d vol.) hastily give it as his opinion, 'that this thrashing-mill barn is perhaps attended with rather too much expense for very general use.'

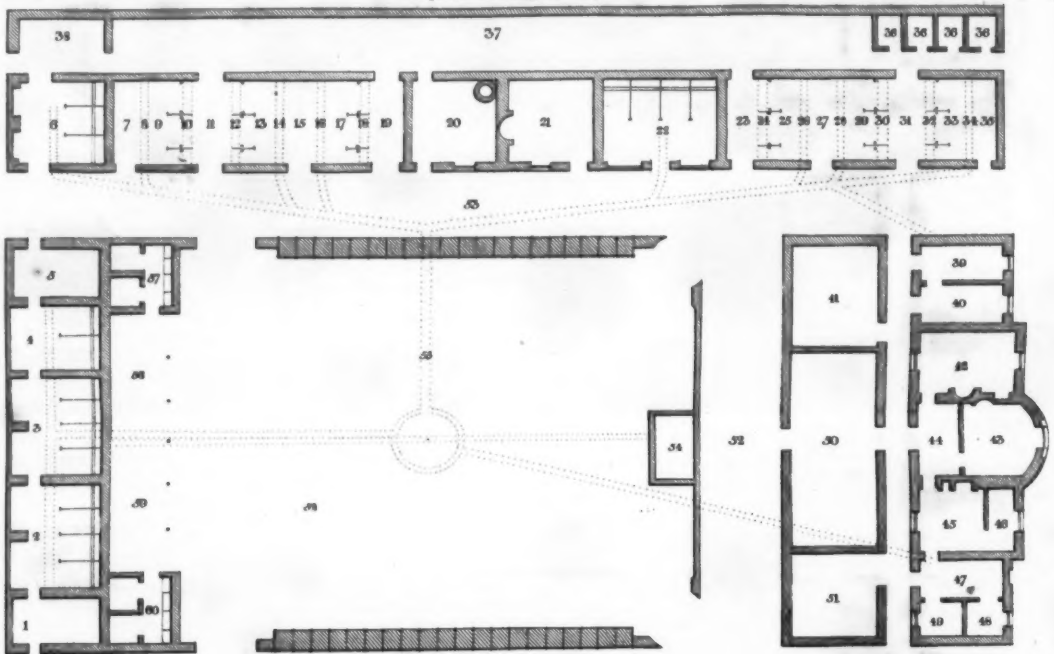
The plan was sent to your Magazine, in order to point out how easily great conveniences could be obtained by a proper construction of the barn; and I am convinced, that the expense of such a barn, as that at Lornshill, very little exceeds that of any of the thrashing-mills, where the machinery is placed on an upper floor (as it ought to be), but have not those advantages, for want of a little attention while the buildings are going forward. If I am not mistaken, prior to the general use of powerful thrashing-mills, two barns of forty feet by eighteen each, within walls, were deemed indispensable for a farm of 100 or 200 acres; and in those parts of the country, where husbandry was best understood and practised, three of such barns were thought necessary; therefore, the additional expense of Lornshill barn, is only a few yards of walling, and the flooring proper for the construction of a good thrashing-mill; and surely farmers, who pay large rents, have a right to expect every building absolutely necessary for carrying on to advantage the improved mode of husbandry.

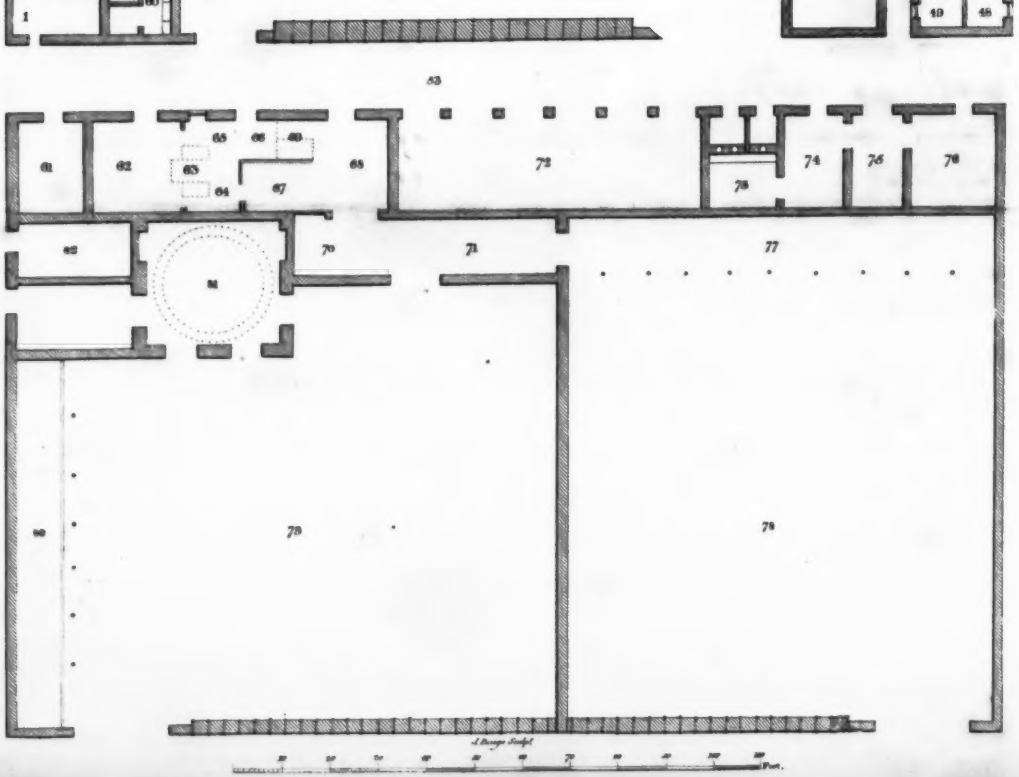
Since

Plan of House & Offices for a Farm of 300 Scotch acres.

Adapted for the Turnip Husbandry.

Plate I. Page 275.

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J. Storer Sculpt.

Since the plan of the thrashing-barn at Lornshill was given in your Magazine for August 1800, a stair (instead of a ladder) has been erected in the barn, which is found to be an improvement, as it renders the access to the upper floor much more easy, and enables the farmer to lock up his unthrashed grain.

I have given a sketch of additional fodder-yards with their sheds, &c. &c. as it is very necessary to have separate yards for cattle of different ages and size. The sight of them will probably alarm the economical landlord; but I beg leave to remind your readers, that I have sent the plan, not as what ought to be exactly followed, but have only endeavoured to point out such a disposition of farm-offices, as are most suitable for the practice of the improved husbandry. Gentlemen will readily adopt such parts of them as appear to them adequate for their purposes, and reject such as seem to them superfluous.

I am aware that the size of the fodder yards will be apt to convey an idea of the enormous expense of them, but that would not be so considerable as is generally imagined; for it is not show, but utility, that is aimed at; and the sheds, &c. can be erected at a very trifling expense, when compared with the amazing advantage they are of to the farmer; and almost every provident farmer will cheerfully set about erecting such himself as will last for the common length of leases, as may be seen by those who have chanced to examine the foddering yard erected a few years ago at Lornshill in Clackmannanshire; and I can assure them, that the expense comes within the reach of almost every farmer of the present day.

At some future period I propose sending you a plan for a stack-yard, with such a kind of corn-stand as will give an incalculable advantage to the farmer.

Wishing every success to your useful Magazine, I remain,
Sir, your most obedient Servant.

J. F. E.

References to a Plan of Offices for a Farm of 300 *Scotch acres, adapted for the Turnip Husbandry.*

N. B. 300 Scotch acres correspond nearly to 381 English.

No.	*Feet by Feet.*	
1. A place to hold hay, or cut-grass, in the summer season - - - - -	18	10
2. A stable for four horses, with two recesses in the back-wall to hold cart and plough-harness, corn, chaff bin, &c. - - -	24	18

N. B. The recesses are 10 feet by 4 each, and

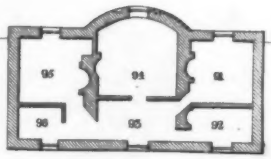
No.		*Feet by Feet.*	
	they may be closed in by sparred doors, so that each ploughman may keep his own things under lock and key. The stalls are 9 feet long by 6 feet wide.		
3.	Another four-stall stable, with recesses -	24	18
4.	A two-stall stable, with a recess, A. -	12	18
5.	Another place for hay or cut-grass -	10	18
6.	A three-stall stable, with two recesses -	18	10
	These buildings are 14 feet high, so that there may be a hay chamber over them, B.		
7.	A foot-path behind the cows or oxen -	18	5
8.	A grip, or gutter, for holding their dung -	18	1½
	The depth of it, on the side next to the foot-path, not to be above 4 inches, and on the side next to the cattle, not above 1½ inches.		
9.	The stance for five cows or oxen, C. -	18	7
10.	The manger, &c. - - - - -	18	2
11.	The feeding-path, with a door of communication to the turnip-shed - - - -	18	8
	There are racks placed above the manger, for holding of straw or hay, as it is found to be very beneficial to cattle when feeding on turnips, &c. to be at liberty to eat fodder when they like.		
12. 13. 14.	The manger, and a stance for five cattle and the grass; the dimensions of each as before mentioned.		
15.	The foot-path between the two rows of cattle		
16. 17. 18.	The mangers, and a stance for five cattle and the grip; the dimensions of each as before mentioned.		
19.	A single food-shed, with a door of communication to the turnip-shed - - -	18	6
20.	A place for boiling the horses meat, or steaming potatoes - - - - -	18	18
21.	Cottage for unmarried men servants -	18	18
	Under this cottage and boiling-house, a tank, or water-cistern, should be placed, D.		
22.	A four-stall stable, with two recesses, as before	24	18
23.	A single food-shed - - -	18	7
24. 25. 26.	The manger, stance for five cattle, &c. the grip or gutter, each as before.		
27. 28. 29. 30.	The double foot-path, the gutter, the		

stance

No.		*Feet by Feet.*	
	stance for five cattle, and the other gutter, as before.		
31.	The double food-shed - - - -	18	8
32. 33. 34.	The manger, stance for five cattle, and the grip or gutter as before.		
35.	A single foot-path behind the cattle -	18	5
36. 36. 36. 36.	Four calf pens, each of them -	9	6
37.	A shed, being a to-fall, or lean-to, for turnips, potatoes, &c. - - -	130	12
38.	Part of the above shed, for various articles for the three-stall stable - - -	18	12
39.	Dairy - - - - - -	17	8
40.	Dairy scullery - - - - -	17	8
	N. B. These buildings are only one storey high.		
41.	The yard for drying of the dairy utensils -	22	18
42.	The farmer's sitting-room that overlooks the farm and the farm-yard - -	21	14
43.	Another room (measures, including the bow)	17	16
44.	Entrance and stairs - - -	17	9
45.	Kitchen - - - - -	14	12
46.	A bed-closet - - - - -	14	8
	Bed-rooms in the upper storey.		
47.	Scullery, or back kitchen - -	14	8
48.	Larder - - - - - -	8	7
49.	Another larder - - - - -	8	7
	N. B. These buildings are only one storey high.		
50.	The house-court or green - -	50	18
51.	Open yard for coals, ashes, &c. - - -	21	18
52.	Cart-way between the fodder-courts and house-yard - - - - -	93	18
53.	Cart-way between the byres, or cattle-stalls, and the fodder-yard - - -	200	16
54.	The cistern which serves both yards -	15	8
55.	A foddering-yard, with sparred mangers round the fence, E		
56.	Cattle-shed, with a rack for straw in it -	28	12
57.	Two hogstyes and yards, each - -	12	5
58.	Another fodder-yard, with mangers, &c. as above	98	45
59.	A lean-to, or to-fall cattle-shed, with a rack in it	28	12
60.	Two hogstyes and yards, each - -	12	5
61.	A place for holding tools, spare gear, &c. -	20	13
62.	A chaff-house - - - -	20	16
63.	A small space for holding the refuse of the grain,		

No.		Feet	by Feet.
	after being sifted, when it comes from the first fanners - - - -	4	3
64.	The place for the second pair (or cleaning fanners)	8	7
65.	The place for the machinery - -	10	11
66.	A place for the clean grain - -	10	8
	Above this there is a trap-door, through which the sacks are drawn up by means of a wheel and axle (commonly called an endless rope); and they are then placed on a miller's barrow, and wheeled directly into the granary; and when the grain is to be sent away, the sacks are again placed on a miller's barrow, and wheeled to the endless rope, when the rope that goes round the axle is thrown over a roller fixed between two rafters, placed directly over the door opposite to it, and the sack is tied to it, and let down into the carts with great expedition and little trouble; just below the door there is placed another roller, which projects a little way from the wall, in order to prevent the rope and sacks from rubbing on it.		
67.	The place for the straw as it falls from the shakers	11	8
68.	The straw-house (two stories high) -	20	16
69.	A stair up to the loft, where the thrashing machine stands - - - -	8	8
70.	A place for a straw-cutter, - - -	13	12
71.	A place for straw - - -	30	12
	N. B. These two places are leans-to or to-falls.		
72.	Cart-shed, over it a granary - -	62	20
73.	A flue-kiln - - - -	12	12
74.	A place for coals - - -	20	13
75.	A place for horses standing in while they are shoeing - - - -	20	12
76.	A smith's shop - - - -	20	18
77.	A lean-to, or to-fall shed, with a rack in it to hold straw for winterers - -	95	12
78.	A fodder-yard, with mangers round the fence, &c.	100	95
79.	Another fodder-yard, &c. - -	95	83
80.	A shed with a rack in it to hold straw for the cattle - - - -	83	12
81.	The horse-track for the thrashing-mill -	27½	27½
	N. B. This building is as high as the thrashing-barn, in order to give the horses plenty of air,		

which



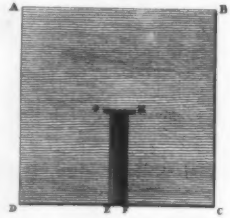
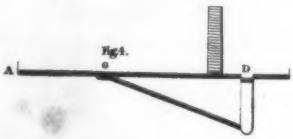


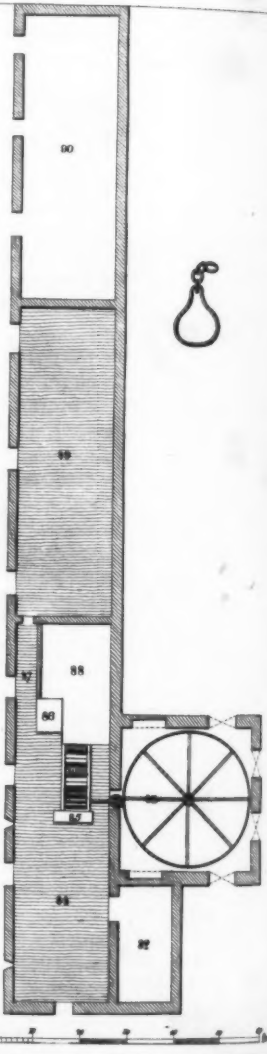
Fig 3.

Fig 4.



Plan & Elevation of the Manger in the Yard.

Scale of Feet.



References to the Second PLATE.

		Feet.		Feet.
No. 82.	The upper storey for the Millstones, -	24	by	12
84.	The Bay of the Barn, for unthrashed Grain. N. B.—The width of the Barn permits two Stacks of different Grain being put in at the same time; the narrow path between them enables the Stower to place the Sheaves in proper order for delivering them to the Carriers to the Feeder.	36	by	20
85.	The Feeding Board, - - - - - - - - N. B.—Before which is placed the Drum and the two Sheakers.	8¼	by	3½
86.	The Trap-door, with Leathern Hinges, - - Over which is placed a Wheel and Axle, with an endless Rope, for taking up and letting down the Sacks of Corn.	7	by	5
87.	The Gangway, for wheeling the Sack from the Wheel and Axle to the Granary,	16	by	5
88.	The Upper Storey of the Straw-house, - -	20	by	16
89.	The Granary, - - - - - - - - - -	62	by	20
90.	The Upper Stories of the Places, Nos. 73, 74, 75, and 76, - - - - -	60	by	30
91.	A Bed-room, - - - - - - - - - -	14	by	14
92.	A small ditto, - - - - - - - - - -	14	by	7
93.	Staircase, - - - - - - - - - - -	16	by	8
94.	The Bow-window Room, - - - - -	16	by	16
95.	Bed-room, - - - - - - - - - - -	14	by	14
96.	A small ditto, - - - - - - - - -	10	by	7

No.		Feet by Feet.	
	which they require when employed in this hard labour. The space is not altogether lost, as it affords an excellent place for depositing the wood for carts, ploughs, &c. to season in.		
82.	A place for a small pair of millstones, for bruising or grinding oats, &c. - -	24	12
82.	In the second plate the upper story for the millstones - - - -	24	12
83.	The upper stories for the horse-track -	27½	27½

A Particular Description of some Articles in the References to the foregoing Plan.

A — DIVIDING the standing for ten horses into three stables, may perhaps appear to many people a needless expense; but, having once had the misfortune of an infectious disorder breaking out in a stable that held twenty horses, I was convinced of the impropriety of congregating such a number into one place. Mr James Clerk (farrier to his Majesty for Scotland) in his Treatise on Horses, published in 1787, points out many disadvantages attending it: besides, the collecting many servants in one stable, often occasions great neglect, and affords them the means of caballing together, which the divisions prevent; and, at the same time, by means of a pass-key, the master can superintend all the stables, with as great ease as if they were not divided.

The racks in farmers' stables commonly lean forwards, and the spars are made flat, and of fir, and only nailed to the top and bottom rails, so that they are quickly destroyed; whereas, the racks ought to be placed upright; and I think it is, at the long-run, more economical to have the spars or rundles made of well turned ash or beech, most of which should turn in deep sockets, which enables the horses to pull out the hay or straw with more ease. Many horses have a bad trick of pulling out their fodder, and letting it fall beneath their feet: in order to prevent this, some new forms of racks and mangers have been contrived. There is one mentioned in the communications to the Board of Agriculture by Mr Beatson (vol. I. p. 20.); but these I cannot recommend; for I have found that, instead of saving the hay, there was more of it wasted, than by the old form. There is, indeed, a new kind invented by a spirited American farmer, Mr William West of Philadelphia county, which seems likely to be more efficacious. (78th page of the 1st edition of the Complete Grazier, published by Crosby & Co. Paternoster Row, in 1805.)

The pavement in the stalls are often made too steep. Mr Beatson,

son, in his paper to the Board of Agriculture, gives it as his opinion, that 'horses ought to stand as nearly on a level as possible; nor can there be any reason whatever to the contrary, unless that of carrying off the moisture; which, I hope to show, may be much more effectually done by paving the stalls level, than in the common way: nothing can be worse for a horse's heels, than to make him stand always on a slope or declivity. It not only occasions grease, cracks, scratches, &c. but, by keeping the tendons and sinews of his pastern joints in a constant state of extension, causes a stiffness in those joints, which must prevent the free use of them.

'The method I would recommend is this:—Suppose A, B, C, D, (plate 2d) the ground-plan of a stall. A B, is the inner end, to which the horse is fastened. Let it be paved on a level from A to D, and B to C, leaving in the middle a small drain, E, F, G, H, extending to within about three feet of the inner end of the stall. This drain to be seven or eight inches wide at top, and to form an angle at bottom, as shown in the cross section, fig. 3. The bottom of the inner end, at G H, to be only about three inches deep, and to slope from thence outwards, as much as conveniently may be, to conduct the moisture at the main drain at D, shown in the longitudinal section, fig. 4. into which all the stall-drains empty themselves.

'These stall-drains to be covered with a piece of two-inch plank, having as many holes as possible bored through, and made so as to be easily raised up when necessary, to clean it, or wash it below.

'The main drain may be made at the end of the stall, as at D, or in any other convenient place, for conducting away the moisture into a reservoir. If at the end of the stall, it should not be nearer than two feet; otherwise the stale of mares might not at once get into it, unless the pavement without the stall were made to decline towards the drain, which need not be above six or seven inches wide at top, and should likewise be covered with planks full of holes.

'It must be observed, that the pavement or floor of the stall, instead of being perfectly level across, should decline about an inch, or an inch and a half from each side towards the stall-drain; a declivity which will not be perceivable, but will prevent any water spreading towards the sides, in case it does not fall immediately into the drain.

'The advantages of this sort of stall are, that the horse always stands upon a level; and, consequently, will be less liable to disorders in his feet or heels; that, as horses generally stale about the middle of a stall, and as the bottom of the stall-drains may have

have a much greater descent than can be given to the floor of a stall, the urine will be carried off immediately without spreading to either side, as must be the case in the common method;—for which reason, horses may be kept dry with less litter if required.' Similar drains may be made in the ox-stalls, &c. which would keep them uncommonly dry.

It is imagined, that the additional quantity of urine that would be collected by these drains, would in a great part, if not totally, defray the extra expense of making them.

B — Mr Marshall, in his Rural Economy of Norfolk, takes notice of an excellent cheap hay-chamber, made, in that celebrated county, with clay and rods. (See minute 15. in the 22d page of the 2d vol.)

'It measured six yards by eight, or forty-eight square yards.

'It took three hundred splints (alder and willow rods, about the thickness of a man's wrist, down to that of his thumb), at 1s. 6d. - - - - - L. 0 4 6

Three loads of clay (casting and carriage about) -	0	4	6
A waggon-load of straw - - -	0	2	0
Five days of a bricklayer and labourer, at 2s. 6d. -	0	12	6
One ditto to plaster it when it was dry on the under side - - - - -	0	2	6
Total, L.	1	6	0

Or 6½d. a yard square.

'N. B. The price, by measurement, for labour alone, is 4¼d. a yard, which is a great deal too much.

'This floor was made in the following manner.

'The rods being trimmed (namely the twigs, and tops taken off), they were laid across the joists, as close to each other as possible. If crooked, they were "crippled;" had a chop in the crooked part with a hook or hatchet, so as to make them touch every joist, as well as each other;—no nails or other confinements.

'The clay being well soaked with water, the principal part of it was mixed with long wheat straw; which was well worked into it, by the means of a horse or man treading it, and by racking it about with a turnip-hook; the rest made mortar-wise, with a small quantity of short straw.

'The rods being bedded, and the clay prepared, the dauber laid a plank across the rods to prevent his misplacing them with his feet; and, standing on this, laid on a thick coat of the strawy clay, so as to cover the thickest of the splints about an inch thick, with a dung-fork, working it well between the crevices of the rods, and making it as level on the top as that rough tool would make

make it. This done, he went over it again with the mortar-clay (still standing on his plank), and gave it a thin finishing coat with a trowel. The thickness of the rods, and the two coats of clay, is about three inches; the thinner they are, the sooner they dry; and the lighter they are for the joists and timbers.

'Where, from the uncouthness of the rods, the clay is forced through between them, the dauber, with a hoe, cut it off level with the rods on the under side; and, for this purpose, drew his hoe over every part of it—a job quickly done.

'In the spring, when the floor is perfectly dry, it is intended to be plastered on the under side, to cover the rods, and give it a parlourable appearance. This will take about a day's work.

'A clay floor is preferable, in two respects, to a boarded one; it is cheaper and *tighter*. Boards, except they are well seasoned, and without they are ploughed and tongued, and laid down at a greater expense than can be bestowed on a farmer's hay-chamber, will let the dust and seeds through upon the horses and harness; whereas clay renders it as tight as lead.

'Mentioning my doubts to the workman as to its duration, observing that the rods, I was afraid, would soon rot, he answered, that did not signify, for, if the straw was well worked in the clay, the floor will remain firm though the rods be rotten.

'Mr John Baker of Southreps, whose opinion in this case is decisive, corroborates the idea of clay floors being preferable to boarded ones, and of their lasting a great number of years.'

These hay chambers over the stables afford great conveniences, and the floor itself is procured, according to Mr Marshall's account, at a very trifling expense. They would be equally convenient over the cattle houses; but the additional expense of six or seven feet of more walling will probably preclude them (now that building is so very high) from general use; otherwise they would greatly contribute to show off the fat cattle to advantage; for too great a height over the cattle makes them appear far below their real value.

C — The stakes to which the cattle are tied, are placed as near the sides of the stalls as will admit them to lye down with ease, and, at the same time, prevent them from interfering with each other's food. They are tied up by chains fastened to a single ring; but the ring ought not to be either a circle or perfect oval, otherwise they will not run easily up or down the stakes; the ring ought to be made something of the same shape with that given in the copperplate, with a swivel at the top. The part of the band that rests upon the neck ought to be made of strong leather, or broad web-girting, lined with soft leather, so as to permit it to be readily cut through, in case of any accident.

The

The length of the half ſtalls ſhould be about three feet from the outſide of the ſtakes.

D — Mr Marſhall, in his Rural Economy of Yorkſhire, page 142. of the firſt volume, deſcribes theſe ciſterns.

'In this diſtrict, water ciſterns are growing into general uſe, eſpecially in upland ſituations. I have ſeen an inſtance where the dwelling-houſe alone, affords more than a ſufficiency of water for every uſe of the family; nor is it the conveniency of having a conſtant ſupply of water always at hand, which alone conſtitutes the utility of water ciſterns.

'Rain-water preſerved in quantity under ground is pure and palatable in a ſuperior degree; cool in ſummer, warm in winter.

'It is particularly grateful to cattle, eſpecially when they are ill; and it is highly probable that, as a menſtruum of aliment in general, it is the moſt wholeſome water.

'The ſituation of a water ciſtern is generally under the kitchen, or in a vacant corner of the yard near the kitchen door.'

The form of water ciſterns is various. The deeper they are ſunk, the better they keep the water. The cube is perhaps the moſt convenient figure; but a double cube would perhaps keep water better. A ciſtern nine feet cubical, contains 27 cubical yards, or about 60 wine hogſheads of water.

The *materials* of water ciſterns in this diſtrict are clay, bricks and tarras.

The *method of making* has lately received a conſiderable improvement. When the art was leſs known than it is at preſent, an irregular hole was dug; the determinate figure of the ciſtern being given by the walls, behind which the clay was *rammed*. Now, the intended form of the ciſtern, when finiſhed, is given to the excavation; whoſe ſides are ſquared and plumbed with the exactneſs with which a wall is carried up. On the wall-like face of the excavation, the clay is laid *plaſter-wiſe* with a trowel, coat over coat, two or three inches thick; and againſt this firm, even ſurface of plaſtering, the brick work is raiſed. The bottom is, or ought to be, in all caſes, bedded with three or four inches thick of ſtrong clay, beaten into a ſmooth, even, wax-like ſubſtance: on this flooring of clay, a double flooring of bricks laid; and on the margin of this the ſide walls are carried up half a brick thick. The bricks, I believe, are invariably laid in tarras.

E — The fodder yard is ſunk a foot below the cart-ways, fenced with poſts and rails, from 4½ to 5 feet high above the cart-way. The poſts ſhould be from five to ſix inches ſquare, and placed in a rough wooden caſe, (which preſerves it better than if they were let into a ſtone one), which is ſunk at leaſt fifteen or eighteen inches below the ſurface; and the rails ſhould be three inches

inches broad by two. Sparred mangers ought to be placed along the ſides of the fence, the top of them about ſix inches higher than the cart-way, and the bottom about a foot above the level of the yard, which gives them a proper ſlope, for containing turnips or potatoes, &c. in the winter ſeaſon, and cut graſs in the ſummer: they ſhould be about three feet ſquare, including the front poſts, of three or four inches thickneſs, and placed in the ſame kind of wooden caſe as the outward poſts are, with a rail nailed to the top of the front poſts, and well ſecured to the higher ones. The ſpace between the poſts being ſo ſmall, only one animal can feed at a time; which in a great meaſure protects the weaker from the ſtronger cattle, while eating their food.

The walls of the byres, or ox-ſtalls, need not be above ſeven feet high. The doors of all the buildings are made to open outwards, which gives great room in the inside of the barns and ſtables, &c. &c.

They are hung on pivots, according to the Roxburgh plan, having from four to ſix inches of the door behind the pivot; inſtead of making the pivot work in a ſtone, as in the common method, it is fixed in a ſtone, and ſtands upright; and there is a cap for it in the hinge, which makes it turn more eaſily; for no dirt or gravel can get into it, and, by impeding its motion, throw it off its centre.

These kind of hinges require leſs iron than the ordinary ones of a proper ſtrength for outſide doors; I apprehend that caſt iron would anſwer extremely well for theſe hinges, but the pivots ought to be made of malleable iron.

The improved tile-roof with ſtraw (or, what is ſtill better, reed), placed between the rafters or cupples, ſhould be adopted (*vide* the Agricultural View of Clackmannanſhire): indeed, whether the roof is covered with tile or with ſlate, it equally gives warmth in winter and coolneſs in ſummer. Upwards of twelve years experience has proved the efficacy of it.

There is a new farm-ſtead recently erected in an expoſed ſituation in the parish of Alloa, where this mode of placing ſtraw between the rafters was made uſe of, and the hurricane of the 25th of laſt December (1806) did not diſplace a ſingle tile.——J. F. E.

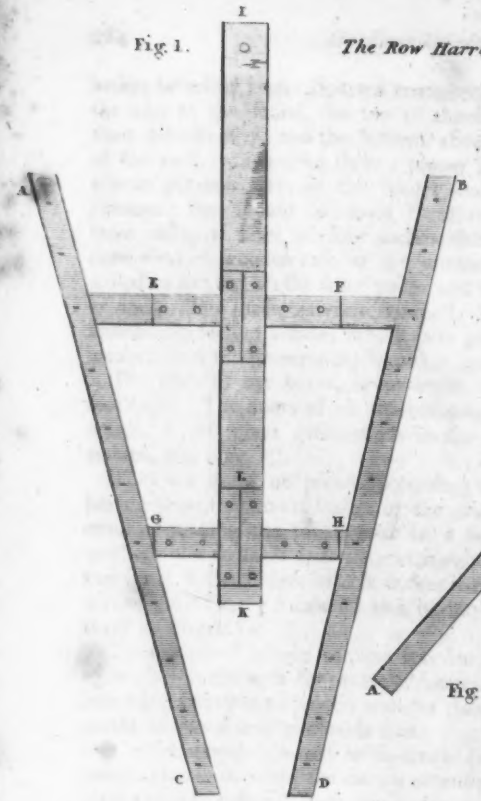
TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Cultivation of Potatoes, with Figures of the Implements used in cultivating them.

SIR,

I BEG leave to ſend you an account of my method of cultivating potatoes and turnips, with a deſcription of the implements I employ

Fig. 1. *The Row Harrow*



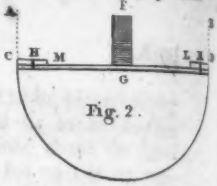
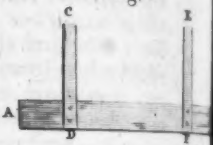


Fig. 2.

Fig. 3



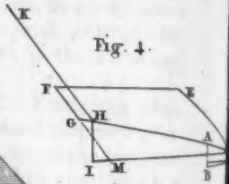


Fig. 4.

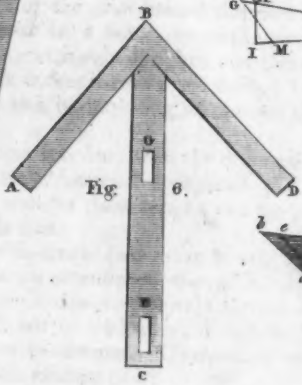
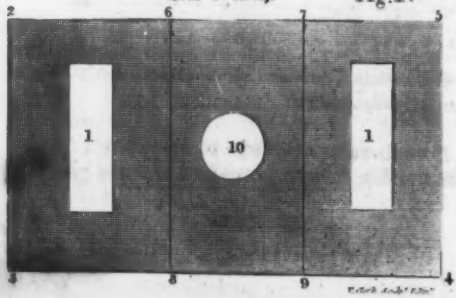


Fig. 6.

Fig. 5.

N.° XXII page 424. *The Screw Muzzle or Plough Regulator*

The Cramp Fig. 1.



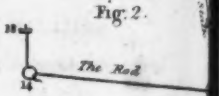


Fig. 2.

Fig. 3.

employ for that purpose; and remain, Sir, your obedient servant,
Kilcalmonell, 15th Jan. 1807. ALEX. CAMPBELL.

CULTIVATION TABLE FOR THE IMPROVED CULTURE OF POTATOES.

Potatoes planted.		*Thereafter to receive the first harrowing.*	
From the	*Inclusive to the*	*If early kinds.*	*If late kinds.*
17th March	21st March	In 26 days	In 30 days
22d March	26th March	In 25 days	In 29 days
27th March	31st March	In 24 days	In 28 days
1st April	4th April	In 23 days	In 27 days
5th April	9th April	In 22 days	In 26 days
10th April	14th April	In 21 days	In 25 days
15th April	19th April	In 20 days	In 24 days
20th April	24th April	In 19 days	In 23 days
25th April	29th April	In 18 days	In 22 days
30th April	4th May	In 17 days	In 21 days
5th May	9th May	In 16 days	In 20 days
10th May	14th May	In 15 days	In 19 days
15th May	19th May	In 14 days	In 18 days
20th May	24th May	In 13 days	In 17 days
25th May	29th May	In 12 days	In 16 days
30th May	3d June	In 11 days	In 15 days
4th June	8th June	In 10 days	In 14 days

Land that is very full of weeds, or apt to become hard by drought, if planted early in the season, may receive an extra harrowing and ploughing, so as to divide the time between the day of planting them and the time specified in the table for the first harrowing. The extra harrowing being so early in the season, must, on the very day in which it is given, be followed by the double mould-board, to defend against frost the potatoes nearly laid bare by the harrow.

Description of the Implements used in the improved Culture of Potatoes and Turnips.

The Row Harrow.

The two harrowing posts A C & B D, fig. 1., are each in length 5¼ feet, and in thickness 2½ inches square. The middle or directing

directing poſt I K, is five feet long, five inches broad, and 2½ inches thick, with iron plating on the lower ſide to preſerve it from wearing. The connecting bars E F & G H are three inches broad, and two inches thick. They are of ſuch length as to place the remote teeth A & B forty-two inches, and the near teeth C & D twelve inches aſunder. They are tenoned into the harrowing poſts A C & B D, ſo as to be fluſh with their upper ſurface, by having a ſhoulder on the upper ſide of the tenons, and none on the lower ſide. Their other ends are cut ſquare, and applied to the ſides of the middle poſt, with which they are connected by means of four hinges of the ſame ſhape with door hinges; the one part of the hinges being fixed to the bars, and the other part to the middle poſt, by the ſcrew bolts 1, 2, 3, 4, &c. On account of the hinges being fixed on the upper ſide of the harrow, and the ſquare ends of the bars being in contact with the middle poſt, the harrow is not allowed to fold downward, which would endanger its being overſet when turning at the end of the rows. There are eleven teeth fixed in each of the harrowing poſts by ſcrew nuts. They are in length under the poſts two inches, and in thickneſs half an inch ſquare. They are ſix inches aſunder, and the end teeth are three inches from the ends of the poſts. The draught chain from the croſs tree to the harrow, is ſix feet long, to prevent the fore part of the harrow from riſing too much; and is fixed to a muzzle upon the middle poſt at I. The harrow drawn in the intervals, harrows the oppoſite ſides of two contiguous rows. This has the ſame effect as if it were drawn upon one of the rows, and folded round it; with this advantage in favour of the firſt method, that one horſe is ſufficient for pulling the harrow; whereas, by the laſt, it would require two to prevent it from ſhifting off the ridge. Beſides that, by drawing it in the intervals, it is not ſo apt to be interrupted by ſtones, clods, &c. By the poſts being placed ſloping from the line of draught, as in the figure, all the teeth in each poſt move in ſeparate equidiſtant tracks. The wide end of the harrow goes foremoſt, as that method, on trial, was found to be the beſt for making good work. One uſe of this implement is, to harrow the rows intended for turnips, carrots, and other ſmall ſeeds, immediately before they are ſown. This admits of ſowing them more accurately, and it makes a fine pulverized bed to depoſit them in. This bed is nearer to, and therefore more within, the influence of the dung previouſly laid in the rows, than the former tops of the ridges; which will accelerate their growth, ſo that they will be in leſs danger from drought and vermin. Another uſe of this harrow is to deſtroy the weeds in potatoe crops before the plants make their appearance; and with the help of

other implements, to be afterwards described, to keep the land free and open. It likewise removes a considerable portion of the earth from the tops of the potatoe ridges, which exposes the plants more to the influence of the sun, and thereby encourages their vegetation, without altogether levelling them, which would turn up the plants, or break off their shoots, and expose the crop to injury from rain, or the natural moisture of the soil. The harrow requires a boy (unless the driver is so expert as to do without him) to guide it, and to assist in turning at the ends of the rows, by means of a rope fixed to a staple which is driven into the middle post at L. By pulling this rope occasionally, he can disengage the harrow from stones, clods, or roots of grass; which, if allowed to remain amongst the harrow-teeth, would prevent its making good work. In level land, the boy walks in the furrow wherein the harrow is drawn; but if the rows are across a declivity, he will find it more convenient to go in the furrow immediately above. The harrow is drawn in every other furrow, *i. e.* in the 1st, 3d, 5th, &c.; and when the field is gone over in this manner, it does the remaining ones, viz. the 2d, 4th, 6th, &c. By this means, the ridge on each side is of equal height; and better work is made than if one ridge partly harrowed were lower than the other not harrowed,—the consequence of going over the field by passing along the furrows in the order of contiguity. The harrow, by its construction, adapts itself to all the inequalities in the height of the ridges and width of the furrows; and by going frequently among them, reduces the ridges to any degree of flatness required; while, by having so much play, and being drawn in the furrow, particularly when the horse goes at a quick pace, it is enabled to shake out the stones and clods entangled therein, without dragging them along, which would make bad work. The weight of the middle or directing post keeps it steady in the furrow; and the lightness of the harrowing posts gives them more play, which crumbles the earth more effectually, and prevents the harrow from being so easily choked. In all these respects, it seems to have the advantage over the double harrow fixed unalterably without any play, at a particular degree of curvature, and which is drawn over the tops of the ridges. In May 1801, having for the first time seen in the Bath papers vol. 9. article 14. a description of a harrow for common operations, invented by Mr Wynne, and constructed on the same principle with my row harrow, and my improvement on the common harrow, viz. sloping the posts from the line of draught, so as to make all the teeth go in separate equidistant tracks, I think it necessary to observe, that my row harrow, and my improvement on the common harrow, were

invented many years before the above period; so that, although Mr Wynne and I agree in the general principle, and nearly in the manner of applying it, yet we both have the merit of originality of invention, as the one could have no opportunity of copying from the other. I am just now contriving to make further improvements on the harrow for common operations. If successful, I may at some future period communicate to you the result of my endeavours.

The Hoop.

The hoop, fig. 2. is a bar of iron three feet eight inches long; two inches broad, and one fourth inch thick. It is bent in a semicircular form, so as to have its ends A and B two feet asunder. Before it is bent, the side intended for the fore edge is tapered thin from C to D, which, along the curved line C E D, is about three feet in length. The ends A and B are fixed with ridges in mortises made at the extremities of two posts, three feet long and three inches thick, the fore parts of which are fixed with hinges to the sides of a plough-beam; or the ends may be rounded and screwed, and fixed in the posts with screw-nuts. The posts expand like the wings of a double mould-board plough, and are fixed at any width required in the same manner. By this means they will receive hoops of different dimensions to suit the different width of rows; or the hoop may be attached to the beam in the following manner. Three inches of each end are folded inward in the direction of C M and D L, and rivetted by the pins H and K to a bar of iron C D, which is two feet long, three inches broad, and half an inch thick. Into this bar is rivetted at G a stalk F G, six inches long, two inches broad, one half inch thick, which is inserted into a mortise in the end of the beam three inches from its hind part, and retained there by wedges. Different sizes of hoops may be made in this way likewise, but each of them will require a separate cross-bar and stalk. To balance, however, this consideration, they do not require the side-posts, hinges, and stretchers, which are necessary in the other. The ends A and B of the hoop, in the one way of making it, and the stalk F G, in the other, are bended to allow the hoop to slope backward on the lower side. This makes its cutting edge point more to the bottom of the furrow, and, when raised up a little, it is more easily disengaged from the tough roots of weeds which have not been cut by it. The beam has plough handles fixed to it; and it has a wheel at the fore part eleven inches in diameter. The wheel has a stalk two inches and a half broad, and half an inch thick, which rises fifteen inches above the wheel. This stalk passes through the beam, and through

through an iron band three inches broad driven upon it near its fore part. The beam is raised or lowered upon the stalk, and fixed at any height required by a bolt screwed into the iron band, and passing through the half of the beam to the stalk, against which it presses so as to prevent it from slipping through the beam. In turning at the ends of the land, the hoop, by lifting up the handles, is raised from the ground. The chief use of this implement is to pulverize the earth left in the intervals of horse-hoed crops by the paring-hoe plough, before it is returned to the plants by the double mould-board. It will likewise nearly fill up the deep furrows left by the double mould-board between turnip rows, where danger is apprehended to sheep from leaving them open.

The Strake.

The strake A B, fig. 3. is a well smoothed deal of hard ash, five feet long, six inches broad, and two inches thick. The wooden supporters, C D and E F, joined to it by screw-bolts, are inserted into mortises in the hind bar of a car frame, through which they can be raised or lowered at pleasure, and fixed at any place required by wedges. The car has plough handles, which enable the operator to press upon the strake when drawn by a horse going in the furrows of horse-hoed crops, so as to remove a few inches of earth at the same time from the tops of two contiguous rows. This is done to potatoes some time after they are planted; and to rows intended for turnips, before the seed is sown. It is called a strake, from the resemblance it has in its operation to the instrument called by that name in Scotland, which is drawn over the upper edge of the measures for grain, to remove the overplus grain from them, and thereby to reduce their contents to a flat surface. The strake must be raised from the ground, by lifting up the handles when coming round upon the head ridge. It was tried, fixed to the hind part of a plough-beam, having a small wheel at the fore part of the beam. But when used in this manner, it could not without difficulty be made to press equally on two contiguous ridges, if one was higher than the other, from the rows being across a declivity, or from any other cause. It had not this defect when fixed to the end of a car.

The Pulverizer.

The pulverizer, fig. 6. is a bar of iron three feet long, three inches broad, and half an inch thick. It is connected with a plough-beam and handles, by means of two iron sheaths, which are rivetted into the iron sole at E and G, and fixed in mortises

in the beam by bolts and wedges. By this method of fixing, it can easily be taken out of the beam to be repaired or sharpened. The sheaths are of such length as to make the beam, before and behind, of the same height with the beams of the common ploughs, and of such thickness as to make them sufficiently strong. The two feathers, A B and B D, are each twenty-two inches long, two inches broad, and half an inch thick. They are first welded at right angles to one another, so as to resemble a wright's square; and afterwards welded in the direction of the diagonal of the square to the point of the iron sole at B. Their outer edges are made thin and sharp, for cutting the earth and roots of weeds; and they are curved upwards towards D and A, until the outer corners are brought within twenty-four inches of each other. The skeleton of a double mould-board plough, without boards, with a narrow iron head, covered by an iron sole piece, and with a sock to which are attached the feathers in fig. 6. will make a more durable, though more expensive, pulverizer, than the one above described. This implement, in stiff soil, prepares the way for the double mould-board. In the intervals of horse-hoed crops, it scoops out, pulverizes, and scatters the mould; and, with the assistance of the paring plough, keeps it free, open, and clear from weeds, until the plants are ready for being earthed up.

Paring-Hoe Plough, &c.

I send you the following directions for making the paring plate for the paring-hoe plough, and the erect feather, which supplies the place of a coulter on the plough for common operations, in the expectation of bringing those implements into more general use. For the paring plate take a wooden pattern F M D E, fig. 4, being a thin deal, eight inches broad; E D forms an angle of 45 deg. with D I, the plane of the sole of the sock; F M has the same slope with the fore part of the sheath K H, but projects half an inch beyond it when D is at the point of the sock. Apply D M, the sole of the pattern, to D I, the sole of the sock; and with a piece of chalk draw the line D H on the upper side of the sock, and produce the line to G. This direction will do, whatever is the size of the sock. Then D G F E D will be the shape of the iron paring-plate. It is about half an inch in thickness, and cut in such a manner as to have a projecting part, A B C D, four inches long and one inch broad, to which the under side of the sock is welded at its point. The plate is then folded up, so as to have its under side D H G leaning upon the back of the sock on the landside, and both their landsides in the same plane. The fore edge E D is tapered like that of a coulter towards the landside,

side, except near the point D, which must be left thick till after that operation, for fear of burning it by the welding heat. The hind part F G is likewise made thin, that it may be in the same plane with the landside plating on the plough. The end F G projects half an inch beyond the fore part of the sheath, and is in close contact with it. This is better than attempting to cut the line F G, so as to reach to the fore edge of the sheath, which, if not done with the greatest accuracy, would either prevent the sock from being sufficiently driven upon the plough, or leave an opening between the plate and the sheath, into which earth and small roots of weeds would be constantly insinuating themselves. Besides the above perpendicular plate, the sock of the paring hoe plough has a horizontal feather, nine inches broad, for cutting the roots of weeds, and pulverizing the earth between the rows. Two of those socks, on two ploughs connected by cross-bars passing through both beams, and having only one handle to each beam, will remove the earth from both sides of the row at once, and answer that purpose better than the coultered ploughs which are made double in the above manner; as the latter, on account of the two coulters, are more apt to be impeded by any obstacles in their way. In this method two horses are necessary, to prevent the plough from cutting across the row. In level, well-prepared land, and in the hands of a very expert ploughman, (notwithstanding the awkwardness of his being obliged to walk stride-legged with a foot in each furrow) I have seen the double paring plough make very tolerable work. But, in other circumstances, it appears to me to be an imperfect implement, as it must always be held perpendicular to the surface, else one of the socks will be thrown out of the soil, and therefore cannot, like the single plough, be leaned upon to the right or left, in order to push stones and clods out of its way, instead of carrying them forward, to the evident danger of the young plants, or to counteract any tendency it may have to go out of its direction by the obstacles it meets with, or by any deviations of the horses from their proper course. Perhaps the superiority of the work performed by the single plough, and its paring the earth and weeds clear away from the plants, without any danger of creating blanks in them, with its requiring but one horse, will more than compensate the saving of time and labour, by using two ploughs joined together.

Fig. 5, *a b d c*, is the erect feather, which may be made to supply the place of the coulter on any plough for common operations. It is a bar of iron 14 inches long, 2½ inches broad at the lower end, and tapered to one inch at the upper end. The side *a e* is formed into a cutting edge towards the landside as far as *g*, before it is joined to the sock, and from *g* to *e* afterwards, for the

reasons mentioned in the directions for making the paring plate. The angle *a b d* is an angle of 45 degrees; it is welded to the under side of the sock, so that the line *e f*, which is an inch from *b d*, will correspond with the landside of the sock. It is then folded up along the landside of the sock, so as to be perpendicular to the sole of the plough. When intended for ploughing tough sward, it is welded so as to have its point as far advanced as the point of the sock. When intended for ploughing in land abounding with loose stones, the plough will go the more steadily by having the point of the sock advanced three or four inches before the erect feather. The upper part of the erect feather can be made a much sharper and thinner wedge than the part of the coulter which corresponds to it in other ploughs; and therefore it must be fitter for cutting such roots as slide up along its edge. The erect feather, which supplies the place of the coulter, is supposed, by the editors of Encyclopædia Britannica [see the article *Plough*] to be weaker than the coulter itself, and more easily twisted from its proper place. This objection, however, those gentlemen, upon a comparative trial, would have found to be completely without foundation. The sock, in fact, renders the plough upon which it is used much stronger than coultered ploughs, as the erect feather will not yield in the smallest degree to a force which would either break the coulter, or bend it so as to require repair. The erect feather prevents the point of the sock from getting far under flags or large stones, which is a frequent cause of the breaking of other ploughs, or of bending their coulters. In this sock, as there is but one point exposed, it can more easily turn small stones to one side, and pass through them. Nor is it subject to another inconvenience attending coultered ploughs, which are frequently turned out of their course, or thrown out of the soil, by stones, roots, &c. getting between the sock and coulter. A plough with this feather on the sock, is not apt to be choked by stubble, rushes, clods, roots of grass, &c. nor when ploughing a surface covered with dung or other rough manure. The parts of those, which in other ploughs would stick in the angle formed by the coulter and beam, here rise along the erect feather of the sock, and fall over it on the landside of the plough in regular order, ready for being turned under the next furrow. Without seeing it actually at work, it is impossible to conceive the superiority it has in this respect over other ploughs. It will not choke once for an hundred times that they do; and when it does, it can be more easily cleared. The above property, before the invention of this sock, seemed to be a *desideratum* in plough-making, and cannot be given to the coultered plough, without raising the beam so high, and lengthening the sheath

sheath and coulter (which, in this case, must be made proportionally thicker) to such a degree, as will render the plough weak, heavy, or both, and thereby produce a remedy almost as bad as the disease; nor would the remedy, after all, be effectual, as it will not prevent choking between the coulter and sheath. This sock is lighter and cheaper, having much less iron in it, and easier made, than the sock and coulter, with the apparatus of wedges and plate for the coulter hole, which accompany the latter. It saves the trouble of carrying a hammer for altering wedges; and of carrying and constantly using an instrument for clearing away the stubble; as well as the time consumed in those operations. It is not equally liable with coultered ploughs, to be affected by the blunders of ignorant ploughmen, who frequently place the coulter improperly, so as to make bad work, and occasion more resistance to the draught. And it saves the expense and waste of time occasioned by the frequent breaking, bending and repairing of the coulter, as well as by the breaking of the beam, which, in coultered ploughs, is much more liable to such a disaster. It was I who suggested to the late Mr Small the idea of the cast-iron sheath used on his plough, and which is now so generally adopted. But a still greater improvement, as it adds equally to strength and durability, and more to smoothness, which are most important advantages in the construction of the plough, has been made by the Rev. Mr Cook, as mentioned, but not particularly enough described, in the 5th volume of the Bath Papers. I allude to the making the landside and mouldboard of cast-iron all in one piece, with a plug for fixing on the sock or share. One of those bodies, if it has the proper shape and dimensions, added to the sock and muzzle invented by me, and the necessary wood work, would probably make a more complete plough than has been hitherto known.

Culture of Potatoes.

The potatoe land is repeatedly ploughed and harrowed, until made sufficiently fine. Some land will be more so with two ploughings, than other land with four. The first ploughing is given in the beginning of winter; and the last immediately before planting the potatoes. After the last ploughing, the plough goes round every ridge, and turns a furrow from each side. This makes it easier for the cross-harrowing, which follows, to fill up the furrows, so as to make them level with the ridges; after which, straight parallel furrows, two feet and a half asunder, are opened up by a double mouldboard plough, pulled by one stout horse, going twice in the same track; the first time down hill, if the land is sloping. Or the plough may go first up hill,

giving it little depth by the muzzle, so as merely to line out the direction of the furrow, which is opened to its full depth when returning down hill. The dung-carts are then introduced; the horse going in one furrow, and the cart-wheels in the furrow on each side. The driver walks behind the cart; and, with a crooked, three-pronged fork, draws the dung out of the cart, and leaves, in small heaps, in the row the horse goes in, a sufficiency for it and the row on each side. The heaps are divided by women and children among the rows; and spread in them as equally as possible. The spreaders allow the carts to keep so far before them, that the whole allowance of dung for three rows is placed in one of them, before any part of it is spread. This prevents the feet of the horses and the cart-wheels from displacing it, after it is spread, and the potatoes can be laid more straight and regular upon it. The termination of the ridges is marked out before ploughing, by drawing a slight furrow with the plough on each side the field; and the termination of the rows is marked in the same manner, both before and after opening up the furrows to receive the dung. This last marking prevents the dung and potatoes from being placed too far out at the ends of the rows, upon the thin earth carried forward by the plough to the grass headridge; which frequently happens, unless care is taken to prevent it. Upon the dung, the sets consisting of middle-sized whole potatoes, or top-ends of large ones, are laid twelve inches asunder. The small ones are rejected, lest any of them should be the produce of curled plants, which are apt to propagate the disease. The potatoes and dung are covered up, by splitting the ridges between the rows with the double mouldboard going twice in the same track, the first time down hill, if the land has a declivity, and returning with little, if any, load upon the plough, chiefly with a view to correct any inaccuracies in the first opening up of the ridge, by which it was converted into a furrow. Or the plough may be first drawn upon the ridge against the declivity with a shallow furrow, so as to give the horse firmer footing than he would otherwise have on the top of the ridge in returning down hill, when he is obliged to exert more strength in opening the furrow to its full depth; in order completely to cover the potatoes on each side. Opening the furrow to its full depth against the declivity, would be too great an exertion for a single horse; and two horses, if employed together, could not be prevented from trampling upon and displacing the dung and potatoes laid in the furrows, even if yoked in a line, whilst more trouble in driving, and a broader headridge would become necessary. Although there should be no declivity, going twice in each track conduces to neatness and goodness of work. Any inaccuracies in the first journey, are corrected in the

the second, and the soil acquires an additional degree of pulverization by the more frequent rubbing of the mouldboards against the sides of the ridges.

Instead of once harrowing the potatoes, a little before the plants are expected to make their appearance above the surface, according to the present practice of others (except those who have within these few years in some degree followed my method, and found it to be attended with the greatest success), it occurred to me that a partial fallowing might be given to a potatoe field, after the seed was in the ground, according to the following plan, previous to the operation of horse-hoeing the plants. The first harrowing is given at the times pointed out by the accompanying cultivation-table, the row-harrow being drawn in the intervals between the ridges once or twice, according to the stiffness or foulness of the soil, or the quantity of earth that has been thrown over the potatoes; care being taken, however, not to go so often as to take up any of the sets. The cultivation-table is calculated so as to give the first harrowing at the time generally taken by potatoes, to have from half an inch to an inch of growth from them under the surface, in a moorish soil, and high situation, in the climate of Kintyre. But every farmer ought to make a cultivation-table for himself, as the vegetation of the crop will be later or earlier according to the climate, the kind of potatoe, the nature of the soil, the quantity and quality of the manure, the depth at which the seed is deposited, &c. The strake is employed in aid of the harrowing specified in the cultivation-table, to remove stones, clods, &c. from the tops of the ridges, and to flatten them so much, by removing part of the earth, as to allow the heat of the sun to have more influence in bringing forward the crop. It likewise ensures the potatoes coming up in the middle of the ridge, directly over the place they were planted in; for they will grow out at the sides, unless there is a smaller portion of earth between them and the air on the top of the ridge. The potatoes are narrowly looked at during the time of harrowing and straking; and any taken up are carefully replaced.

When the ridges are in the above manner sufficiently flattened and pulverized, they are allowed to remain in that state until a few of the potatoes are beginning to peep through the surface, when the pulverizer is employed to scoop out and crumble the earth in the intervals, which is immediately thrown over the ridges by the double mouldboard. In doing this, the boards are extended so as to have their low heels, which are eight inches from the plane of the sole, twenty-seven inches asunder; by which means the earth will be effectually thrown over the potatoes, and, at the same time, well pulverized. After an interval of a few days, to give

give time for smothering the weeds buried by the plough, the ridges are again flattened and smoothed by the harrow and strake, without going so deep as to injure the young potatoe shoots. The design of delaying this last ploughing, and the subsequent harrowing and straking, until some of the shoots are perceived above the surface is, that the soil may have less time to become foul with weeds, or hard with drought, before the season of removing the earth from the plants by the paring-hoe plough; and that the plants may have fresh, well pulverized earth, free from weeds, to nourish them from the first period of their coming above ground. By these means, the earth removed from the tops of the ridges by the harrow and strake, and that to be afterwards removed from their sides by the plough, will be in better condition against the time of earthing up the plants, to answer the purposes of that operation.

By this improvement in the culture of potatoes, successive crops of weeds are destroyed, before they have time to make a network of the soil; the earth is left free and open for the fibres of the potatoes to extend themselves in search of food; the horsehoeing of the crop, and the taking up of the roots are rendered easier; a great addition is made to the produce; and the land is left in better order for subsequent crops. This method is of great importance where the land in which potatoes are planted is coarse and stubborn, or infested with weeds; or where there is a deficiency in the quantity or quality of the manure applied to the crop. It is peculiarly proper where potatoes are planted early in the season; as from the slowness of the growth of those which are early planted, the soil has more time to harden and become foul with weeds, before the young plants make their appearance. But even where none of those circumstances occur, the method here described will make ample returns for the expense attending it. Nor is the expense, after all, very considerable; as in ploughing, and harrowing between the ridges, a man and a boy with one horse (or an expert driver without a boy), going twice in each furrow, will easily do an English statute acre in four hours; with the pulverizer, once in each furrow, an acre in two hours; and with the strake (which covers two ridges at once), an acre in one hour.

In May and June 1803, when all the potatoes in my neighbourhood were overrun with weeds, and the greatest labour bestowed on hand-weeding them, my potatoe land, managed in the above manner, was so clean, that there was not the smallest occasion for hand-weeding, except in a few rows, which, by way of experiment, were managed according to the best mode of culture made use of by others.

When

When the plants are two or three inches long, the earth and weeds are removed from them by the paring-hoe plough. This implement is described by Mr Robertson of Granton, in the 10th No. of the Farmer's Magazine, and is nearly the same with the Argyllshire plough invented by me, and for which I was honoured with a premium by the Highland Society of Scotland: with this difference, that, instead of a narrow feather attached to the left side of the sock, to supply the place of a coulter, it has a broad plate of iron to answer that purpose; which, at the same time, prevents the earth from falling upon the young plants, and burying them in the row. It differs, likewise, in having a moveable mouldboard, by which the body of the plough can be made so narrow, as to leave the earth removed from the plants exactly in the middle of the intervals. In other respects, it is of the same size and construction with the plough for common operations. If made much lighter or shorter, it would be too easily thrown out of its direction by any impediment it met with; and the removing the earth and weeds from the plants requires so little force, that the plough may, without any inconvenience, be made of such weight and dimensions, as will give steadiness to its motion. An old plough, when judged to be too frail for common ploughing, may be converted into a paring-hoe plough, by fixing a plate of iron to the landside of its sock, (according to the directions given in the description of implements), and by setting its mouldboard closer to the beam, or by fixing a moveable board to it. This plough can go very near the plants, without breaking down the narrow ridge upon which they are left standing. By taking the earth close away from the plants, it destroys the weeds more completely, and leaves less occasion for hand-work, in taking away the weeds between the plants with the hand or hand-hoe. The earth, when returned, will be more pulverized and cleaner, where it is of most importance that it should be so,—in the place to be occupied by the growing roots. The plants will not sustain any damage from drought, if the plough does not go too deep. The stiff earth, if left in contact with the plants, cannot be penetrated by the dews and slight showers, before they are dried up by the sun. The crumbled earth gathered in the intervals, will, by its own weight, by winds, &c. be always falling into the furrow made by the paring-hoe plough. This crumbled earth will retain, for the nourishment of the plants, the moisture which falls, and retain it the longer of being placed in narrow furrows contiguous to the roots of the plants, which, in some measure, shelter it from the rays of the sun. But to remove every apprehension as to danger from drought, the hoop

hoop and pulverizer can return part of the earth to the sides of the ridges, whenever the weeds are rotted, so as to prevent their growing; which will happen in about eight days after they are buried in the intervals. This is much sooner than the plough could be employed with safety to raise the earth towards the plants, as neither of the first mentioned implements will endanger the plants in the smallest degree.

In general, the hoop repeatedly drawn along the furrows, preceded the first time by the pulverizer, which prepares the way, and makes a track for the wheel attached, (which would not move so steadily on the top of the small ridge in the intervals), will keep the earth removed from the plants free from weeds, and in a complete state of pulverization, until it is returned to them by the double mouldboard. But in land full of clods, or infested with small tough roots of weeds, which are apt to clog the cutting edge of the hoop, its place will be effectually supplied by the pulverizer, (which works without choking), and by the paring-hoe plough. The pulverizer crumbles and scatters the earth, and fills up the track made by the plough, without burying the plants; and the plough gives it another crumbling in removing it again to the middle of the intervals. Here it is not allowed to rest, (unless it is sufficiently fine and clean), but is tossed and broken, and the weeds destroyed, by repeating the above operations, until the crop is ready for being earthed up.

When the shortest of the plants are about six inches long, the double mouldboard, twice drawn in each row, is employed to raise the earth well up to their stems, and to smother any small weeds that may be growing amongst them. This is done during the cool mornings and evenings, while the leaves and small branches are erect with the cold, which will prevent them from being covered by the earth when raising it to the stems. Before the plants meet over the intervals, so as to render it improper to bring a horse amongst them, they receive another pulverizing and earthing up, if the appearance of weeds, or the stiffness of the soil, point out the propriety of repeating those operations. Any weeds that show themselves after this time, (and they cannot be many, if the foregoing method is followed), are pulled up by the hand. The roots are dug out of the rows by a three pronged fork. One person working with this instrument in well cultivated rows, will, in good soil, give employment enough to two gatherers. The saving of time in taking up the roots by the plough and harrow, is more than balanced by the loss sustained in the great number unavoidably left in the soil.

In stony land, after planting the potatoes, and after each subsequent

sequent harrowing and ploughing, a cart goes among the rows, in order to cart off the land the stones previously gathered into every fourth row. They are likewise gathered off after the crops, preparative and subsequent to potatoes, are harvested. All stones above three or four inches in diameter, are an interruption to ploughing and harrowing, as well as to the cultivation and taking up of the crop. Stones are particularly troublesome, in ploughing up land that has any considerable degree of cohesion, arising either from the nature of the soil, or from its being long in grass; as, in such land, they are continually stopping the plough, or turning it out of its direction, besides creating a great deal of additional labour to the cattle, and to the ploughman.

Potatoes ought to be planted as early as can be done, without danger from frost. The following advantages attend early planted potatoes. *1st*, They are more mealy; consequently, more nutritious, and better tasted. *2dly*, There is a greater chance of a dry season to take them up in. If housed wet, they must be dried by spreading and turning them, or they will not keep. *3dly*, There is less risk of their being lost by moisture or frost, after they are ripe. Any of them in the least degree spoiled from those causes, must be carefully separated from the rest, as they would infect and destroy a great number of those contiguous to them. *4thly*, The land can be ploughed immediately after the potatoes are removed, which will keep it dry through winter, and cover up the dung dug out of the rows; at the same time that it will expose the seeds and roots of grass, &c. near the surface, to be destroyed by the frost. Oats are sown in spring upon this furrow; as giving it another ploughing after the frost is over, or delaying to plough it till then, would bring up fresh weeds to injure the crop, and bury the surface which was meliorated by exposure to the influence of the elements.

In wet land, the potatoes, instead of being planted upon the dung, are pushed by the hand into the top of the row previously formed by the double mouldboard, and the holes filled up by the hand-hoe. When planted in this manner, they do not admit of being harrowed; therefore, at the time pointed out by the cultivation-table for the first harrowing, the rows are flattened by the roller; and when the potatoes begin to come through the surface, earth is thrown over them by the double mouldboard preceded by the pulverizer. The rows are again rolled a few days thereafter, and remain in that state until they are ready for the paring-hoe plough. The rest of the process of management is the same as for the dry land. By this method, the potatoes, though not so productive, are better tasted, and in less danger of perishing from moisture. It is more profitable, however, than planting in

lazy

lazy beds; a method which ought never to be resorted to, except in corners inaccessible to the plough, or in bringing stubborn new land into culture. C.

NOTE.

The remainder of this Essay, viz. On the Culture of Turnips, shall be presented in our next Number. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Feeding Cows with Hay and Oat-straw.

SIR,

HAVING often heard it remarked, that hay afforded nourishment superior to straw of any kind, when used as food for black cattle or for horses, I devised the following experiment for ascertaining this fact, on which I would beg leave to ask your opinion how far it goes in deciding the matter at issue, or what more correct experiments might be tried with that view.

On 4th January 1795, I began to give a milch cow as much newly thrashed oat-straw of the preceding crop as she chose to eat, with half a peck of potatoes each day, and measured the quantity of milk that was drawn from her, with regularity. This was continued till the 11th of January, when she began to receive, in lieu of the oat-straw, for the succeeding week, as much good hay, composed mostly of rye-grass and red clover, unthrashed, and of the then last year's crop, as she could eat, besides the same measure of potatoes as formerly.

On comparing the quantity of milk afforded from these different sorts of food, I found them exactly the same.

I beg leave to remark, that there are too many facts that mankind take for granted, without the smallest inquiry. Have not our fathers believed in witches and demons, without the least inquiry; and proceeded the length of burning one another for imaginary crimes, founded on that absurd belief? Is it not still credited by the ignorant, that toads and lizards are venomous reptiles? Was it not a favourite subject of belief among many in former days, that the Philosopher's Stone could transmute all metals into gold; as certainly as many bigotted Indians believe the doctrine of Metempsychosis, or as your correspondent a '*Border Farmer*,' believes that tar is a panacea for his sheep. But as we have lived to see the dispersion of many clouds of prejudice and error, we may yet hope to witness the dispersion of many more. NOVICE JUNIOR.

At a Meeting of the SMITHFIELD CLUB, held at Freemasons' Tavern, December 16. 1806, Lord William Russell in the Chair, in the absence of His Grace the Duke of Bedford, President;

IT was resolved, That the Premiums and Conditions for the ensuing Christmas Show, on Friday, Saturday, and Monday, the 11th, 12th, and 14th of December 1807, be as follows, viz.

CLASS I. *For Oxen or Steers of the Herefordshire Breed.*

To the Owner of the best Ox or Steer, of the weight of 120 stone or upwards—*Twenty Guineas.*

*** See the general Conditions following Class VI.

CLASS II. *For Oxen or Steers of the Long-Horned Breed.*

To the Owner of the best Ox or Steer, of the weight of 120 stone or upwards—*Twenty Guineas.*

CLASS III. *For Oxen or Steers of the Short-Horned Breed.*

To the Owner of the best Ox or Steer, of the weight of 120 stone or upwards—*Twenty Guineas.*

CLASS IV. *For Oxen or Steers of the Sussex or Kent Breed.*

To the Owner of the best Ox or Steer, of the weight of 120 stone or upwards—*Twenty Guineas.*

CLASS V. *For Oxen or Steers of the Devonshire Breed.*

To the Owner of the best Ox or Steer, of the weight of 120 stone or upwards—*Twenty Guineas.*

CLASS VI.—*For Oxen or Steers of any Mixed Breed.*

To the Owner of the best Ox or Steer, of the weight of 120 stone or upwards—*Twenty Guineas.*

* Also an additional *Ten Guineas* to the Owner of the Ox or Steer which the Judges shall esteem the best exhibited, in the above six Classes.

☞ As general Conditions of all the above six Classes, it is required, that the Beasts sent in claim of the above Premiums, have been worked at least two years, ending the 11th of October 1806; that they have not been put to fatten previous to that day; that no Cake or Corn be given previous to the 1st of September 1807; that the whole of the food consumed, from the 1st of October to the 30th of November 1807, be certified: It is also required, that the Breed of each Beast be named; that the time of putting to feed, and the state of the flesh at the time, be certified, under the attestation of two respectable witnesses of the facts.

CLASS VII. *For Oxen or Steers of any description, under the weight of* 120 *stone.*

To the Owner of the best Ox or Steer—*Ten Guineas.*

☞ Beasts sent in claim of the Premium in this Class, are not expected to have worked, but must be fed without Cake or Corn;

Corn; and the time of putting to feed, and the state of the flesh at the time, must be certified.

CLASS VIII. *For Cows, which have borne three Calves at the least.*

To the Owner of the best fat Cow—*Ten Guineas.*

☞ Cows sent in claim of the Premium in this Class, must have calved in the year 1806 or 1807; the time of their last calving, and the time when dried, to be certified; they must not have been put to fatten previous to the 1st of January 1807; the time of putting to feed, and the state of the flesh at the time, to be certified.

CLASS IX. *For One-year old long-woolled Wether Sheep.*

To the Owner of the best Pen of fat Wethers—*Ten Guineas.*

*** See the general Conditions following Class XII.

CLASS X. *For Two-year old long-woolled Wether Sheep.*

To the Owner of the best Pen of fat Wethers—*Ten Guineas.*

CLASS XI. *For One-year old short-woolled Wether Sheep.*

To the Owner of the best Pen of fat Weathers—*Ten Guineas.*

CLASS XII. *For Two-year old short-woolled Wether Sheep.*

To the Owner of the best Pen of fat Wethers—*Ten Guineas.*

☞ As general Conditions of the four last Classes; the Pens of Sheep sent in claim of the above Premiums, must each contain Three Wethers of one Man's Breed; and they must have eaten no Cake or Corn: these facts to be certified.

CLASS XIII. *For Pigs under Two-years old.*

To the Owner of the best fat Pig—*Ten Guineas.*

*** See the general Conditions at the end of the next Class.

CLASS XIV. *For Pigs under One-year old.*

To the Owner of the best fat Pig—*Ten Guineas.*

☞ As general Conditions of the two last Classes, the Pigs sent in claim of the above Premiums, must have their exact ages certified, and the sort of food consumed by them, in the Three Months preceding the show: both of these Premiums not to be gained by one Pig.

Resolved, That every Beast, Sheep, and Pig, intended as a Candidate for the Premiums, be sent into the Show-yard *before Nine o'Clock on the Morning of Thursday the* 10*th of December* 1807; and that the Judges of the Show be allowed the whole of that day, without the admission of strangers, till the adjudication is settled, in order that due attention may be paid to the Certificates.

Resolved, That the following be the Instructions to the Judges for the Show of 1807:—

You are desired to decide, which is the best Beast and Sheep in each Class; having regard, in forming your judgement, to quality of Flesh, lightness of Offals, and time of Feeding; also,

to the early maturity in Sheep and Pigs; and likewise in Cattle, if not worked. To require, that the Certificates be answerable to the requisitions of this Advertisement. The Owner's Certificate of Feeding to be Evidence, if not contradicted by counter-evidence; in which event, to determine on the case from the circumstances of it; but without reference in the Adjudication: your decisions, as to the Breeds and live weights of the Animals, to be final; and that no Premium be adjudged, in any case, where there shall not appear to be sufficient merit to deserve it.

Resolved, That no Cattle, Sheep, or Pigs, be admitted as Candidates for the Premiums, the Owners of which do not consent that the Club shall have a particular return made, of the dead weights of Offals and Quarters, immediately on the Animal's being slaughtered and weighed: and the *Secretary* is authorised to retain the Order on the *Treasurer*, Mr GIBLETT, for payment of any Premium, until such particulars are furnished to Mr JOHN FAREY (*Landsurveyor and Agent*), No. 12, Upper Crown Street, Westminster, in order to their being by him laid before the public.

Resolved, That no Cattle, Sheep, or Pigs, be received into the Show-yard, without Certificates delivered with them, (not mixing the particulars of Animals *in different Classes* in the same paper), sealed up, and directed to the Judges for the year: and that no more than two Beasts or Pigs, or one Pen of Sheep, in any one Class, belonging to the same person, be allowed to enter the Show-yard.

Resolved, That ROBERT BYNG Esq. and Mr HENRY KING Jun. be appointed *Stewards* for the ensuing Show and annual Dinner. (These Gentlemen being present, obligingly accepted the appointment.)

Resolved, That Bills be printed of the Premiums, and sent, as in former years, to all the Members of the Club.

WILLIAM RUSSELL.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Husbandry of France; with some Observations on the former condition of its Cultivators.

Somnus agrestium lenis virorum,
Non fastidit humilem domum,
Non Zephyris agitata Tempe.

SIR,

THE perusal of your valuable pages has sometimes turned my thoughts upon those days of my early youth and more advanced

years, passed in different parts of France, and the neighbouring nations, and has led to a comparison between the advantages and disadvantages belonging to those countries *alio calentes sole*, and our own. From these reflections I have been led to think that the good and bad things of life are pretty fairly divided among the inhabitants of Europe; and that the gifts which nature is prodigal in bestowing upon one corner, are generally not more than sufficient to counterbalance some privation to which other seemingly less favoured districts are not condemned. When I first went abroad, I carried with me the usual prejudices of the youth of our island. I thought I was leaving the site of perfection, to visit a land of famine, and a people of slaves; and so difficult is it to emerge from the fetters of early imbibed error, that for a long time I found myself strongly opposing the convictions of reason, by the dregs of preconception. This is the usual way with mankind, whose self-love generally tries to make the truth yield to their opinions, and who at last pay a reluctant submission to it when opposition becomes vain. Whatever happiness has been the result of, or was expected from, the Revolution of France, I can say that I beheld her happy before that event, and very miserable after it. I do not assert this by way of insinuating that the happiness enjoyed by her natives has for ever fled, and is not compatible with the change of government. Time will no doubt mitigate the horrors, and allay the passions which that event produced; and during the existence of which, happiness could scarcely be expected. This is a discussion, however, foreign to your publication.

In the province of Languedoc, where I first resided, the peasants seemed to realize, by their happiness, the fables of the golden age; and, in a small country town, I enjoyed the society of forty families, whose morals would have honoured, and whose manners would have graced, the best circles of a capital; for in France it is at once seen that ease and politeness are not the exclusive attendants of the rich and the titled; they are generally to be met with in the family of the farmer and of the citizen. In this sequestered spot, which was under the protection of the excellent and amiable Bishop of Rhodery, the happiness of the farmer's life first impressed itself upon my mind, which was often irresistibly filled with those tendernesses which they alone enjoy,

'Whom the sudden tear
Surprises often when they look around,
And nothing strikes their eye but sights of bliss,
All various nature pressing to the heart.'

It will be no easy matter to give an idea of the plenty and great cheapness of living in this delightful climate; I shall, however, loosely

looſely ſtate a few facts. At the *Grand Soleil* in Toulouſe, the price of dinner at the *table d'hote*, (including a bottle of excellent wine) did not exceed two ſhillings: for this ſum you had two ſuperb courſes and a deſert of fruit and preſerves in the beſt ſtyle; the common wine of the country, ſold at a halfpenny the bottle. At the other inns you was juſt as well ſerved, at a lower rate, but perhaps with leſs *eclat*.

It muſt be allowed that the ſouth of France is not famous for the goodneſs of its beef or dairy productions; but the plenty, the earlineſs, and the flavour of its fruits and kitchen vegetables, amply make up for this; and there is no country where the appetite of the *bon-vivant* can be ſo fully and eaſily gratified. I have heard much of the French feeding upon frogs; and no doubt this idea, ſo revolting to our ſtomachs, muſt have contributed to the notion, that ſcarcity of proviſions prevailed in France. I never ſaw frogs ſerved at table; but when at Toulouſe I was informed they were ſold in the fiſh-market for one penny each: they are caught by going at night to the ponds with a candle, the light of which attracts them, ſo that they are eaſily tied by the hind legs and thrown into a baſket. The difficulty of getting fiſh equal to the demands which the frequent meagre days occaſion, made the French, who like to live well, fall upon many plans of doing ſo, and at the ſame time according to regulations. When at Rouen I once ſaw a larded cat for ſale in a poulterer's ſhop; the man ſeemed to look on it with conſiderable admiration, as it had been regularly fatted, and aſked more for it than for a large hare, which was likewiſe for ſale; from this it will be ſeen how arbitrary a thing taſte is, and that no juſt concluſion can be drawn from even a multitude of facts which depend upon the capricious nature of man. At Lyons, living was as cheap as at Toulouſe; 200l. per annum was a ſum equal to procure the luxuries of life in profuſion, and an excellent ſociety; the poſſeſſion of a faithful *chère amie* coſt no more than 25 louis-d'ors a year. The embroidreſſes formed a corps from which the moſt difficult to pleaſe might be ſatisfied. I have ſailed ſeveral hundred miles on each of the rivers Rhone, Garronne, and Rhine; the expenſe did not, on each, exceed a half-crown; and the beauties of theſe noble ſtreams ſurpaſs deſcription. The Spaniards ſay that he who has not ſeen Seville, has ſeen nothing: I think the ſame may, with greater truth, be ſaid of Bourdeaux, which is really what it has ſo often been called, the paradiſe of the earth; *hic ſuper omnes angulus ridet*: Never ſhall I forget the grandeur of the approach to it, when deſcending by water into the ſuperb creſcent which it forms along the banks of the Garronne. The wine called claret is the growth of the vineyards which encircle the city; theſe

vines grow in a black rich mould to a great height, and when tranſplanted acroſs the river, they immediately degenerate; indeed, nowhere but in the cloſe vicinity of Bourdeaux do they produce the ſame wine, but change their nature when removed to the common ſtandard of country vintages. It is a curious circumſtance of the vine, that where it can barely come to perfection, on account of the cold of the climate, the wines are preferable to thoſe of climates more congenial to its growth. The Burgundy, Champaign, and Rheniſh, are our moſt eſteemed wines; and they are produced from ſtinted looking plants, which ſeem to ſhrink before the northern blaſt. Bourdeaux lies ſomewhat further to the ſouth. The Florence, Lunel, Madeira, and Malaga, are the produce of hotter climates, and no doubt owe their celebrity to the nature of the ſoil, or to particular expoſures. The rent of vineyards is more various than that of any other grounds. When at Lauſanne, I lived with the proprietor of a vineyard; it conſiſted of five acres, and lay above the road to Vevay. The perſon who cultivated it and made the wine, lived upon it; and the maſter and he equally divided 120 louis-d'ors per annum, which the produce ſold for. The trouble of rearing, manuring, and all the other labours attending a vineyard, is very great; but the proceſs of making the wine is ſimple and eaſy. After the juice is preſſed out, it is put into hogſheads; and, the time of fermentation being attended to, the trouble is at an end. In four or five weeks it is fit to drink; but it improves by keeping. By far the greateſt part of France has the advantage of bringing the vine to perfection. In moſt parts, particularly in Aunis and Saintonge, brandy is made of the refuſe of the grapes: in Normandy, cyder ſupplies the place of the grape juice; and there, brandy is, like wine, made in vaſt quantities from the apple. I never taſted good cyder in Rouen, though I reſided there a winter; and the brandy made of apples is a nauſeous liquor. Except in the north of France, winter begins to retire in February very viſibly, and in March and April, nature appears in her gayeſt attire. The ſpring is indeed the moſt delightful ſeaſon; for the heats of ſummer are oppreſſive, and produce a variety of inſects, very troubleſome even to the natives. I never taſted tolerable malt liquor on the Continent, although the natives are far from being indifferent about it, even where they have wine remarkably cheap.

In two articles we have a decided ſuperiority to moſt parts of the Continent, I mean in fuel and fiſh. The exiſtence of coal is very common in France; but, except in Flanders, I do not remember to have ſeen it uſed. A good fire of wood would coſt at Paris a louis per day to keep up. At Lauſanne it ſells for two louis-d'ors per chord, a meaſure of about two cubical yards.

At

At Rouen I cannot well specify the price; for, when I came to that town, a pair of shoes cost only 10 livres in paper, and, when I left it, 1000 would not purchase a pair. As to fish, I have in no part observed that plenty which is to be found in Scotland. The fish of the lake of Geneva is very delicious, but the price beyond the pockets of any but the rich, so that, except at feasts, it is seldom to be seen. I have heard of trouts being sent at the expense of 100 louis-d'ors to Paris, and even at a higher rate. I never saw any good fish in the south of France, and I am sure that it is scarce in most parts of that division. At Rouen we had tolerable plenty of sea-fish, such as herring and mackerel, and the finest carp I ever saw, remarkably cheap. This is a fish well worth the farmer's attention, as, I believe, one acre under water will yield annually 400 from 4 to 6 pounds in weight.

In every part of the Continent, where I have been, fish was reckoned a delicacy, and, as such, eagerly sought. In this country it is held quite the reverse. As to oysters, they are reckoned the most delicious of food, and procured at incalculable pains every where.

Butchers' meat and wheat are excellent and cheap over the whole north of France, Normandy being famous for its pastures, and Picardy and Flanders for their luxurious productions in grain. Here you may travel through lands under wheat crops which cover the hills and vallies without interruption for many miles. In the months of May and June, these and other crops, such as the rape, have already attained the height of five or six feet, such vigour of vegetation being hardly to be met with in any other part of Europe. When I first went to France, the inhabitants of the country seemed every where to live in plenty. The quantity of silver plate, even among the lowest order of farmers, was astonishing; and one might easily acquiesce in the Emperor Charles the V.'s remark to his courtiers, who, when that monarch passed through France, tried to raise Spain to a comparison with it, 'That the only difference was, that in France every thing abounded; in Spain nothing.' When I visited that country a few years after the Revolution, silver plate had disappeared, and I hardly think I saw a dozen crown pieces during a long stay there at that time. Before the Revolution, the state of the coinage, and plenty of gold and silver, surpassed that even of England. During my several residences in Flanders, France, and Switzerland, I have uniformly found the farming part of the population religious, honest, kind, and enlightened, much beyond my expectation; and I was far from having occasion to remark, that they were ill used, or borne down by oppression. Their houses and mode of living were comfortable and healthy. In France the

kitchen is the place of most consequence in every house in town or country; the preparation of dinner and supper makes every other concern sink in importance; every part of that duty is fulfilled with the greatest skill, and the most solicitous attention; such a thing as hurry in eating or cooking a dinner would revolt the feelings of a Frenchman. An Englishman cooks quickly, and eats in the same way. In Italy the kitchen is so little used that its place is in the garret; and in Holland the brightness and precision of the kitchen, shows that it is not meant for much use; the Germans are fond of good eating, but they are bad cooks.

I have made these loose remarks with greater confidence, because my residence abroad was partly confined to the habitations of the cultivators of the soil, who are totally different from those parts of the population of a country generally visited by travellers, and happily exempted from the grandeur, the vices, and the miseries of the cities. I found these peasants full of sentiments of honour, and even of military glory; and still with pleasure remember the animation of our old servant Limer, when he recounted how he had had the good fortune to hold the horse of Louis XV. at the siege of Fribourg; and of the carpenter who worked for us, when he took out of his drawer a grape shot he had received at Fontenoy when serving in the dragoons.

The joy of the vintage season in France exceeds all comparison with our harvests; here every one is welcome to partake, and baskets of grapes offered to the passenger with the most engaging solicitation. I shall not at present lengthen my letter; but, before concluding, it may again be remarked, that happiness is, perhaps, pretty equally distributed throughout Europe; and that though the excellence, or reverse of excellence, of institutions, in a great degree controul the fate of mankind, yet they cannot entirely give happiness to a depraved people should they be good, nor withhold it from a virtuous people in the event of their being defective. These short and confined hints may partly contribute to give to some readers an idea of the farming class on the Continent, juster than they may have been taught to form.

'How much of all that human hearts endure,
That part which laws or kings can cause or cure;
Still to ourselves in every place resign'd,
Our own felicity we cause or find.
With secret course, which no loud storms annoy,
Glides the smooth current of domestic joy;
The lifted axe, the agonizing wheel,
Luke's iron crown, and Damien's bed of steel,

To

To men remote from power but seldom known,
Leave reason, faith, and conscience all our own.'

I am, Sir, your constant reader,

14*th April* 1807. SEVERUS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Remarks on the Husbandry of Dumfries and Ayrshires.

SIR,

ALTHOUGH no great farmer myself, I am the son of an excellent one, and have always retained a strong predilection for that profession,—that nursing mother of all others in all parts of the world. It happens, of course, when travelling on horseback especially, which is frequently the case, that I look keenly around me, with what little of a farmer's eye I have, and tease every landlord, or other person that falls in my way, with questions relative to the management of the soil. During last harvest, being detained some wet days at Dumfries, there fortunately fell in my way some volumes of your Magazine, which pleased me as much as a miser would be on finding a hoard of gold in the earth. Leaving Dumfries, and travelling up the Nith, a beautiful and romantic ride, I found farming going on in pretty decent style; but the strath, or dale, soon becomes so narrow, that little land is left for the plough. Fine hills, however, for the black-faced sheep, surround you; and few of any other sort, except one flock of Cheviots, are to be seen. Near Sanquhar, the country opens a little; and here aration goes on with as much exertion as can well be expected, every thing considered. A proper rotation they seem to know little of; but want of enclosing, and no encouragement to improve, puts that and every other commendable operation out of their power. One may know when they pass through an entailed estate, without inquiry, at the first look,—so baneful are its effects on agriculture; and the method of letting this estate is almost incredible. A written and sealed offer is given in, not to be opened till an appointed day (at least the offerers are so told); but jealousies are spread, and fears created, somehow or other, during the intermediate time, that the offer is not the highest one; and, by this means, an offerer is induced to renew his offer with an additional sum, and very often bids above himself! As this bidding is all in grassum, there is no danger of loss to the proprietor from want of capital in the offerer, since the money must be paid before the tack is granted, and nothing more is cared for. He may be an honest man or a knave, a fool or a wise

man; a good farmer or a blockhead; it is all the same. This plan I should have thought to be a Turkish bantling, but was told that it was the blessed babe of an Edinburgh writer, and carefully nursed up now to the years of majority, at least, on this estate.

After quitting Dumfries-shire, the hills again approach each other, but expand on entering Ayrshire, where there is abundance of excellent lime; and, as the land here is not all entailed, some symptoms of better farming appear. To the southward, on high ground near the hills, there seemed to be good looking fields of turnip, corns, and fresh looking grass. Nearer the road, attempts were making to improve a very poor soil with lime; and the hedges, considering the great height of the country, not bad. Here, it seems, is the summit betwixt the two counties, for a small loch, near the road, emits a rivulet from both ends, so that its water runs both to Ayr and Dumfries. The dairy is a main object in this part of the country; and one farmer values the produce of his cows at 8l. and upwards a head *per annum*. Towards Cumnock the soil does not mend; and here, again, is a noble lime-work, which has done much, and, with skill, capital and exertion, which seem in some degree at least wanting, would do much more. But this is an entailed estate again. No regular rotation, no red clover, and few turnip. Near Ochiltree there are some well dressed fields, enclosed with a double fence of both a stone dyke and hedge, which must have been expensive, and one of them unnecessary. From this village, towards Ayr, things look worse; and, about half way, there is the cold, cold clay, very late crops, and very poor ones. No clover, no turnips, but oats after oats, and then a precious mixture of rye-grass, goose-grass, and windlestraws. Still nearer Ayr, matters mend a little, although not so as to please a good farmer;—not a farmyard to be seen;—but it seems to me that the soil here is not naturally so good as that nearer the hills. By this time your sensible correspondent Agricola came to my recollection, and it seemed to me that his animadversions on the minutiæ of farming might be of much use. What he has wrote is only a general view, as at present, with a retrospect to former times; and a barbarous picture it exhibits. Woeful must have been the state of agriculture when such terms in a lease, and such a rotation, were thought improvements, as mentioned by Agricola; and the old saying, of the blind leading the blind, was never more completely verified. My ardent wish, that Agricola, or some other person properly qualified, would instruct and stimulate this noble and extensive county, in which there are all sorts of soils, is a principal motive for offering this to your notice. The spirit of patriotism sinks, and pines with regret, at seeing not the half of either corn

or

or flesh produced that might be. Do those people never read your Magazine? It would be of more use to them than all the books in the world, unless it be one old-fashioned book for which I have all due respect. It is to be feared that the rust of former barbarism still adheres, where it is truly deplorable to find it now-a-days. One gentleman-farmer expressed himself thus: 'No no, none of your books; they only lead people to mischief; I take care of that.' Another tells, with much satisfaction, 'how nicely he had contrived the situation of a byre he had built, so that all the filth from it should run directly over a precipice to a burn, and keep clean doors.' And a third, by way of adding taste and ornament to profit, made the road to the nearest lime-work, as far as within his own land, through a muir, serpentine, giving by this means some good ups and downs to his carts.

There are doubtless many farmers in Ayrshire of a very different description; and those, induced by the genuine spirit of patriotism, ought by every possible means to enforce their example on their more ignorant neighbours. What would Great Britain be, even but fifty years hence, were every county in it to produce only a third, a fifth, or sixth more from the soil than at present, respectively, according to their capability of improvement? She would rival France in her millions of men, the only thing in which we are not already superior; which would be a surer guard to the constitution and *terra firma* of Great Britain than all the fleets that ever ploughed the ocean. Ploughing the land is the proper business of man, for his indispensable support and comfort. It is the only foundation for a strong and durable nation. Ploughing the water will only supply his fictitious wants, which inevitably lead to desolation. The saying, of a short life and a merry, may be truly applied to a commercial nation. That your Magazine may spread widely, and be read attentively, is the sincere wish of PATRIOTICUS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Agriculture of Ayrshire.

SIR,

IN a former paper, some time ago, I sent you a brief historical account of the *progress* of agricultural improvement in this county; with some hints for its further improvement, in so far as depended on proprietors and the public. In the conclusion of that paper, I unguardedly made a kind of promise to extend the dissertation to the *actual* state of agriculture of the county, not aware

aware of the difficulty of the undertaking, nor of the responsibility that was risked. I hold myself pledged, in consequence of that promise, at least to attempt to fulfil the engagement; and if I fail in the execution, I can only plead the apology of the Latin poet, " magnis tamen excidit ausis, " and express my hopes, that it may be the means of exciting some person of superior abilities to take up the subject.

No person of candour and discernment will ascribe this manner of speaking to affectation. A small degree of attention will convince such, that the difficulty arises from the nature of the subject under discussion. It is an easy matter to give a distinct view of a district or county that is in what may be called a fixed, permanent state; where either no improvements have taken place at all, or where they have attained to something like uniform systematic regularity: but where agriculture is in a mixed state, or, in other words, in a state of progressive improvement, the case is very different. Here not only a greater variety aud multiplicity of objects are presented to distract the attention, but even these are varying from time to time. Old plans are laid aside, and others more promising are adopted. Some people are so stubborn as to adhere to their old customs against the evidence of their own senses; and there may be others, however well-disposed to try experiments, that either want the ability to do it, or, perhaps, may be fettered by some old restrictions to which they had consented. So that not only in districts and parishes, but on neighbouring estates, and even farms, the state and management may be exceedingly different. And such is actually the state, in a great measure, of the shire of Ayr, at this time. Though great improvements have been made, and are daily making, and though old prejudices are fast wearing out, yet much remains to be done; and it can scarce be said with truth, that there is any thing like an uniform plan or system prevailing, or like that which is to be seen in the different counties of Britain, where agriculture is farther advanced.

The magnitude, also, of the undertaking, may be conceived by attending to the extent and value of this county. It stretches, in a kind of semicircle or crescent, along the shore of the frith of Clyde, from the march of Galloway, within a mile of the Cairn at Lochryan, to within twelve miles of Greenock; a distance of more than seventy miles in length, the average breadth being nearly fifteen. Any person taking the trouble to multiply these, will find, that the superficial contents will fall little short of five hundred thousand acres. And, considering the great proportion of arable to moor and pasture land, this surface is, perhaps, not overrated at 150,000l. a-year. If to this is added,

ed, the value of woods, mills, coal, lime, and other minerals, the whole aggregate annual value of the county may not fall greatly below 200,000l. Accuracy in these calculations is not pretended; nor is it easy to be obtained. The conjecture is formed upon the proportion of arable to pasture and moor land. There are forty-seven parishes in the county; of these there are only six that can be properly called moor parishes, and, even in them, there is fully more arable land than is sufficient for raising grain for the consumpt of the inhabitants. The remaining forty-one parishes consist *generally* of rich and deep land, containing a considerable proportion of clay.

In consequence of superior modes of management being introduced, joined with the great rise of farm produce, the value of property has increased in a remarkable degree to what it was only a few years ago. It is said, that the arable land of the district of Cuningham averages 2l. 10s. per acre; and the best parts of Carrick and Kyle, two guineas. Considering these rates, and the vast extent of arable land, the above annual aggregate sum would appear to be below the mark.

There are few counties in Britain that have the means of improvement more completely in their power, owing to the great quantities of coal, lime, and freestone, in every corner, and the near neighbourhood of almost every part to the sea. Besides, the number of towns and large villages within the county, and the still larger ones in the conterminous county, afford the readiest access for the disposal of every species of agricultural produce. Yet, with all these advantages, it is subjected by nature to one disadvantage, which nothing can remove or compensate. Its exposure to the blasts and ravages of the western ocean, occasions a degree of rain and moisture unknown to the eastern side of the island. Whatever the inclinations or the abilities of its agriculturists may be, this exposure presents an obstacle to the perfection of agricultural mananagement, that is attainable, and has been attained in other districts, where the soil is not, by any means, naturally of equal quality. Here, neither perfect fallowing can be obtained, so essentially requisite to a clay soil; nor can a regular and proper rotation of crops be carried on, where the ground is drenched with rain near one half of the year. It is, no doubt, owing to this circumstance that oats have been, and probably will continue to be, the great staple crop of Ayrshire, and has prevented a due proportion of wheat, barley, and leguminous crops from being cultivated. Notwithstanding this disadvantage, it must be acknowledged, that agricultural improvements have made, and are daily making, a most rapid progress in this county, within these ten or fifteen years past. That which, thirty years ago,

ago, was looked upon as the *ne plus ultra* of farm culture, "the three white crops successive after liming, and six succeeding years in hay and pasture," is gradually wearing out; and the new, and more improved husbandry, in so far as circumstances will permit, is gaining ground.

And here, we cannot help saying, that a just tribute of praise is due to the liberality and patriotism of the respectable proprietors, for setting an example of a more improved husbandry to their tenants, by cultivating a part of their own esates. Many respectable names might be mentioned; but where all are animated with the same spirit, and are engaged in the same vocation, it might be looked upon as invidious to single out individuals. The truth is, that good farming is become the mode, or fashion. In the French style, *it is the order of the day;* and a gentleman would now be looked upon as a *ninny*, who could not, in some degree, join in conversation upon agricultural subjects. And, considering the proneness of the lower ranks of society to follow the example of their superiors, especially when it evidently tends to their own advantage, it would be surprising indeed, if some of the *actual* farmers should not catch the same spirit, and try to imitate the example given them by their landlords.

The husbandry of Ayrshire may be classed under the four following divisions, viz. 1. Tillage. 2. The dairy. 3. Grazing and fattening for the butcher. 4. Breeding and rearing black cattle and sheep. Though there is a mixture of all these various branches carrying on throughout the whole extent of the county, yet the two first are the *chief* employment of Kyle and Cuningham; and the two latter are the *chief* employment of Carrick, and of the moor parishes that are not in that district.

The crops raised in the county are chiefly oats, with, now, a considerable proportion of wheat, bear and barley, and some few peas and beans. In former times it was supposed that the county was not suitable for wheat, owing to the excessive rain and moisture; and it was accordingly, for a long time laid aside, but is now raised in such quantities as to become an article in settling the fiars. Barley has hitherto been so little cultivated, that it has not yet come under the cognizance of the fiars. The fiars of beans and peas have been struck for the first time this year. Bear or big, it would seem, suits the climate of Ayrshire better than barley, which requires more heat and sunshine to bring it to perfection than is requisite for bear. Since the Court of Teinds, in their decreets of augmentation of the stipends of the clergy, are now in use to convert the bear (or big) formerly given to ministers, into barley, and have made that to be payable by the fiars of the county, it would be a desirable thing for all parties concerned,

ed, if the price of barley was ascertained in settling the fiars, as well as other grain. The objection that has been stated to the cultivation of beans, as a general and regular routine crop, is not only the frequent and severe storms from the sea, but also the frequent late and early frosts that prevail through this county.

It is comparatively but of late that turnips have been cultivated to any extent; and even yet, they cannot, by any means, be said to be generally cultivated; nor is there any thing like a regular system of alternate white and green crops any where, except amongst a few of a better description, and more enlarged ideas, than the general run of tenants through this county. Potatoes are universally cultivated in considerable quantities, and by the drill method; and many people through this county prefer those to turnip, not from their superior quality, it is presumed, in feeding cattle, but they think the crop after potatoes is preferable to one after turnip. Whether there is any thing real in this, or only a pretence to apologize for ignorance and want of skill in management, or an excuse to countenance prejudice against a new invention, it may be difficult, without more experience, to determine. If, upon further trial, it shall be found to be the case, one cause of the deficiency may be the moisture of the climate, and allowing the turnip to remain upon the ground, and to be carted off the field in winter, as they are used. In this way, every track of the cart-wheel becomes a reservoir for containing the water, and by that means the ground becomes too much drenched, or soured, and its prolific quality may be injured. If this be all, the remedy is obvious.—Let them be taken up and housed, or otherwise secured, before the winter-rains set in. Upon a very slight consideration, one would be apt to suspect, that the failure of the succeeding crop must be owing either to a defect in the management of the ground for the turnip-crop, or in the climate, since the turnip-husbandry is found to succeed so completly elsewhere. And it is much to be wished, that a few unsuccessful trials may not discourage agriculturists from cultivating this species of produce, upon which good husbandry so essentially depends.

Without a very minute and extensive investigation, it would be difficult, if not impossible, to ascertain the average produce *per* acre of the different species of grain raised within the county. It has been said, that the average of Carrick is four bolls (quarters) *per* acre. Kyle and Cuningham being, in general, of better quality, and lying lower and more level, it is naturally to be supposed that the produce must be greater. The writer of this article has heard of eighteen bolls (72 bushels) of wheat raised upon an acre; twelve Ayrshire bolls (quarters) of oats; and from

from eight to ten of bear and barley. Though some few favoured spots in a good season may yield this quantity, yet it cannot, by any means, be stated as the average produce of the county. If we reckon five Ayrshire bolls of oats, bear and barley, and eight bolls, or thirty-two bushels of wheat, as the average produce of the whole county, we are not, perhaps, very wide from the truth. It is not probable that it is much more; and less than this, one would be apt to think, would not defray rent and the expense of management, with public charges, and leave any thing worth while of profit to the tenant.

The old barbarous practice of 'crofting and out-field,' is nearly, if not altogether, abolished: but it cannot be denied, that what was called, in one of your late numbers, *bear-seed ideas*, in too many instances, keep their hold. Good and perfect agriculture is not the work of a day. It resembles somewhat the progress of nature herself through all her works; rising from small beginnings, and going on progressively to maturity. It is our business to watch, and endeavour to nourish the process; but if we attempt, by violent means, to accelerate, we are in danger of rendering it abortive. In the present case, let the same liberal-minded and enlightened few, who have set the example, continue their example and encouragement, and give time to the old generation, whose prejudices may be supposed most inveterate, to pass off the stage; when a new generation will arise, with minds more pliable, and animated, with all the spirit and vigour of youth. Besides this patient and persevering industry and attention, without which nothing can succeed, there are certain other essentials requisite to bring the county to that state of perfection which, it is hoped, it will one day attain. It has been already mentioned, as a thing generally known, that a great proportion of the ground is of a clay nature; some of it, in the Kyle district, even approaching to till. All who know any thing of good management are sensible that land of this description cannot be kept in a productive state, without a strict and steady adherence to naked or summer fallowing. And though the climate might not entirely admit of the complete rotation practised, upon such land, in the carse of Gowrie, and other places, as detailed in one of your former Numbers, yet the nearest to it that could be made, I would imagine to be the most adapted to the greatest part of Ayrshire, especially where clay was the prevailing subject to work upon. For example, 1. Naked fallow. 2. Wheat. 3. Any green crop most suitable—beans drilled, if possible. 4. Bear or barley sown down with a full crop of red clover. 5. Red clover. 6. Oats. Soil and situation may require a different treatment, and it is the province of the judicious farmer to apply it; but in general, it may nearly be

be laid down as an axiom, that, if regular fallowing, and a rotation of white and green crops is practised, they cannot go far wrong. And it is long experience, only, that will show what the best rotation is that ought to be followed.

It has also been frequently mentioned, that the climate is wet. In this case, common sense imperiously dictates that too much attention cannot be bestowed upon both surface and under-ground draining. Without this no good aration can be practised, nor can good crops be expected. And there is every reason to apprehend, that there is not so much attention paid to this essential requisite as ought to be.

In the next particular which I am about to mention, as conducive to the perfection of Ayrshire husbandry, I am in danger of being branded with want of feeling and humanity. But I cannot help it. I must say what I think; and I declare, from the very bottom of my heart, when I do so, that I think I am most effectually consulting the good of mankind upon the whole. Much controversy for a while took place, in your Magazine, about large and small farms. I think the cause is now fairly given up, and the preference yielded to large farms. I, for my part, am ready to acknowledge, from all that I have either read or seen, that large farms are most conducive, not only to the greatest benefit of society, but, in a particular manner, to the most perfect system of agriculture. In large farms, it is always to be presumed, that the greatest skill, and the greatest capital, are employed; and where these are united, it is to be expected that the greatest produce will be raised. But, should this system of large farms generally prevail, what will become of our population? Shall the small tenants be set adrift, or driven to begging? It is very problematical, if one large farm does not require as many hands to manage it as two or three small ones; and it is done to much better purpose. But, though it should not require just so many, yet we have need of sailors, of mechanics, of manufacturers, and of men, to carry on what is called piece work. These various branches of productive labour can never be overlooked. There is sufficient employment for thousands of hands more than we have to spare. Any one that is possessed of the same way of thinking, and taking a general, or bird's-eye view of the shire, would be ready to conclude, that there is not a sufficient number of large farms, nor of that description of people who have a taste and genius for farming upon a large scale. Small farms, and men of confined genius and capital, more generally prevail. And it is known from the experience of all ages and countries, that men of this description are not celebrated for enterprize. They have not talents to invent, and their narrow circumstances prohibit

prohibit them from risking an experiment, the failure of which might involve them in ruin.

It is difficult, and not necessary, in a dissertation of this kind, to prescribe rules for aration that will apply to all soils and situations, in such an extensive county as Ayrshire; but the few general observations that have been risked may be of use, taken as a whole.

The next great branch of Ayrshire husbandry, is the Dairy. This, as formerly mentioned, is chiefly confined to Kyle and Cuningham; though, of late, it has extended, in part, to Carrick, and even into the conterminous county of Wigton. Here the same complaint of deficiency cannot be made. In justice, it must be allowed that they shine without a rival, it is believed, through the whole extent of Scotland, and need not dread to enter into a competition with many of the best dairy counties of England. The dairy is employed in the manufacture of cheese. No more butter is made than is necessary for family use. These cheeses obtain the general name of *Dunlop cheese*, probably from their having been first made in that parish of the county. They are famous over all the country; and when made in the best manner, are only, if at all, inferior to the Glocester.

Where the employment is in the hands of so many, and must often be entrusted to the care of servants, it is impossible that there can be any *secret* in it. The process, in fact, is extremely simple; and it is probably more owing to a minute attention to the process itself, and to care and cleanliness, that the superior quality of these cheeses is to be ascribed, than to any thing particular, either in the nature of the soil, or of the milk of the cows that are fed upon it. The process is this.—As soon as the milk is taken from the cows, it is poured into a large pail, or pails, and, before it is quite cold, the substance, called the *steep*, is mixed with it. When it is sufficiently coagulated, it is cut transversely with a broad knife made for the purpose, or a broad three-toed instrument, in order to let the curd subside, and to procure the separation of the whey from it. When this separation is observed to have taken place, the curd is lifted with a ladle, or something similar, into the *chissel*, (for it is to be observed, that where a proper attention is paid to the making of these cheeses, no woman's hand ought ever to touch the curd, from the milking of the cow to the finishing of the whole), when it remains a few hours, till it has acquired something of a hardness or consistency. It is then taken out of the cheese-press, and cut into small pieces, with the instrument above mentioned, of the size of one or two cubic inches, after which it receives the due proportion of salt, and is again replaced

in the *chistel*, put into the press, where it remains a few hours again. Then it is taken out a second time, cut as before, and mixed thoroughly, so as every part may receive the benefit of the salt; and, for the last time, it is put into the cheese-press, where it remains until replaced by its successor. After this is done, it must be laid in a clean and cool place, till sufficiently dried, and fit to be carried to market; great care is to be used in frequent turning and rubbing, both to keep the cheese dry and clean, and to preserve it from swelling and bursting with the heat, vulgarly, '*fire-fanging.*' When these cheeses are properly made and dried, as they ought to be, they have a rich and delicious flavour, highly preferable to many of the fat greasy sort, of the same quality, that come from some of the counties of England. They are generally sold in quantities from 10s. to 12s. the stone of twenty-four pounds.

It is to the manufacture of this cheese that the farmer looks for the payment of his rent and his profit. The tillage of the farm is made subservient to this chief article of his dependence; and according as that tillage is well or ill managed, will his success be more or less; that is, he will be enabled to keep more, or fewer cows, and these cows will be better or worse fed. In those districts, where the dairy is the chief business, the turnips raised are given to the cows to keep on their milk, and to young stock that are kept, in order to promote their growth. By means of plenty of green cut clover, eat in the house, through the day, in summer, while they are, or ought to be, turned out to the fields during the cool of the night, and by means of turnip during winter, the cows give a quantity of milk that is scarcely credible;—from ten to eighteen Scots pints in the day. And each of these cows, if well managed, and of a proper kind, is said to yield to the proprietor 10l. 10s. a year. They are of a particular kind, quite different both in colour and shape from the Carrick and Galloway cattle. Their colour is generally brown and white spotted, with horns, having short and smooth hair, small neck and bones; and, at first sight, a person would pronounce them to be more soft and delicate than the other cattle above mentioned, and incapable of enduring the cold and the hardships which these are exposed to in the open fields during the winter storms, though, it is said, when they are fatted, they give equal satisfaction to the butcher with the other. Many of them, especially towards the Cuningham side, are extremely well formed, while others, though perhaps as good milkers, are perfectly the reverse. It is no uncommon thing to give from fifteen to twenty pounds, or guineas, for one of these cows; while one

of the same size, in Carrick or Galloway, would not, perhaps, yield half of the money; and for this good reason, that the one is bought for sake of milk, or the prospect of giving milk, and the other for sake of the carcase. It will be obvious, at first sight, that the profit of a dairy farm must depend upon the number of cows kept; the ease or difficulty of keeping them; and the near neighbourhood of a town or village, where the whey can be disposed of at a halfpenny the Scots pint, which, where it can be done to advantage, is said nearly to defray the expense of management; and is, upon the whole, perhaps, a more lucrative plan than feeding pigs with it.

The third branch of Ayrshire husbandry consists in the grazing and fattening of black cattle for the Scots and English markets. This business is chiefly, though not exclusively, confined to the district of Carrick. The cattle are altogether of a different make from the Kyle breed. They are generally black, and without horns, with long thick hair: their shape is round and square; straight on the back; well limbed; and when standing upright, the more that they have of the 'four-footed stool' figure, they are esteemed the more perfect. Their general look and figure, upon the whole, indicate strength and hardiness; and the finer and more perfect that figure is, the easier are they fed. This department consists of bullocks, *alias* stots and spayed queys, and of cows. The stots and spayed queys are purchased from the breeder at a year and half, or two years old, and kept till they are three or four, when they are driven up to England along with the Galloway droves, to the St Faith's, and other English markets. These are bought in from 4l. to 8l., and sold out from 10l. to 15l. and 18l., according to their size, age and quality, and the state of the English markets. This branch of business depending on such a variety of circumstances, and often upon rumour and opinion, it is no uncommon thing for the grazier to lose his whole year's grass, and some pounds of the prime cost into the bargain. These cattle are never in the house from the time they come from the breeder, but are fed in the fields upon grass and hay till they are driven to England. The business is carried on by drovers and country dealers, a kind of middle men betwixt the Scots and English graziers, and affords great room for speculation; and it must be acknowledged, that a great deal of it, of late years, has been practised, since the price of cattle has so greatly advanced. These drovers or dealers have sometimes a little capital to begin with, and as often have only the credit, *at their outset*, of a fair character. Their common practice is to deal upon credit, by granting their bill for what they purchase, payable in three months.

The

The grazier takes this bill to a bank, indorses it as cautioner, and gets the money. If the drover meets with a ready market in England, he takes up his bill by the time it falls due; if not, the cautioner gets the debt to pay. Great fortunes have sometimes been made, and as often lost, by engaging in this trade, from the precarious nature of the business; and when any of these great drovers happens to fail, they almost lay waste a whole country side. It would be a happy thing, if there were any authority, or regulation in the country, to oblige these men, as is commonly done, or expected to be done by bankers, to show what foundation they stand upon, before ever they are allowed to set out their nose to purchase a stot from any honest farmer in the country, when there is ten to one of his family being involved in utter ruin; or, what is more simple, if graziers were wise enough always to deal for ready money.

The other branch of grazing is carried on by actual farmers, and consists in buying and fattening cows for the home consumpt. The cows are either such as are old, or in any respect thought improper for breeding. They are bought at from four, to six, and eight guineas a-head, according to their size and quality; laid on the pasture about Hallowday, where they remain a year, when they are bought up either by dealers or fleshers for supplying the Edinburgh and Glasgow markets, and the other towns and villages through the west country. These require grass of a better and more fattening quality than stots, and, when fat, weigh from 12 to 24 stones, Ayrshire weight, (24 lib. to the stone). If they happen to be well chosen, and are laid on proper pasture, it is no uncommon thing, of late years, that they double the stake. This cannot, and ought not to be reckoned upon; but, though it were to be uniformly the case, yet, considering the high rent of the land upon which these cows feed, often from 2l. to 4l. *per* acre; considering, also, that some of these cows turn out faulty;—many of them prove with calf; and what is worse than all the rest, the risk of bad markets and bad clients;—though a farmer were to get the above price, it would seem no more than what is necessary to indemnify him. These cows are, in like manner, fed in the open fields during the whole season. They seldom or ever get any turnip or other green food during winter; but when the pastures, towards New Year's Day, begin to fail, they are fed on hay or straw, once or twice a-day, till towards the beginning of May.

Another species of this kind of grazing, that has become very common, is the buying in of, what are called, slack, or draught ewes. These are commonly bought at from five to eight shillings a-head. Instead of turnip, they are laid on grass about

Martinmas; the lambs are taken off about midsummer, and the ewes remain nearly out the whole year. When they are well chosen, and are put upon a proper soil, they turn out a profitable speculation, and are adapted to the means of small farmers, whose capital may not be able to reach to a drove of black cattle.

The house or stall-feeding has become common since the turnip husbandry has been introduced, though only in a limited degree; it is to that extent, however, that good beef and mutton is to be had in the shambles at all seasons of the year; and the salting up the winter mart, at Martinmas, as the *year*'s provision, is not quite so customary as it used formerly to be.

The last branch of Ayrshire husbandry that remains to be taken notice of, is, the breeding and rearing of sheep and black cattle. Though this branch extends more or less over all the county, (for there is no farmer who does not keep a considerable number of cows, either for the dairy or for breeding, and some few sheep), yet the breeding and rearing is more particularly the business of the six moor parishes of the county, and of part of those parishes that lye contiguous to them. In these, it is the chief, if not the sole business. Any little tillage, they have, is only a secondary object, the intention of which is, partly to procure an addition to the winter fodder, and partly to furnish oat-meal for the family. These farms lye high, among 'the heath-covered mountains' of the south and south-east extremities of Aryshire, and are generally of large extent. The sheep that are kept, for it cannot be said fed, upon them, are all of the short black-faced kind. Some few trials, it is said, have been made of the Cheviot breed; but, though these are reported to have succeeded beyond expectation, the partiality runs in favour of the native stock.

These sheep are fed as God Almighty feeds the fowls of the air and the fish of the sea; upon what they can pick up themselves of nature's bounty, without the labour or assistance of man. The tenants have not yet taken the example of some of their southern neighbours, in raising green food for them, which is known to be of use in counteracting some of the diseases to which young sheep especially are liable about the beginning of winter, nor a little hay for them when the ground is covered with snow; the consequence of which is, that many of their best wedder lambs, towards the beginning of winter, die of that inflammatory cholic called the *braxy*, and which a little red clover or turnip would probably prevent, by keeping their bowels in rather an open state; and the elder sheep are often in a state of extreme weakness and poverty before the summer grass comes forward. In other respects, the management of the sheep-stock is nothing different from what it is in other

places

places for the same kind of sheep. Salving, or smearing with butter and tar, universally prevails. How this should have been a practice, time immemorial, to the south of the Forth, and not to the north of that river, is a problem, one would imagine, not easily solved. The writer of this article has known sheep, on the north side of the Forth, sold at 10s. a piece, upwards of five-and-fifty years ago, which was a great price in those days; and there never was a particle of tar or butter put on their body. The wedders are sold off to supply the home market at two or three years old, according to the pasture on which they feed. If it is fit to carry them on to three, it is considered as most profitable. Great part of their wool is sold to the English clothiers.

Along with flocks of sheep, the tenants on these moor farms keep a number of breeding cattle, according to the extent of their farms, from ten or a dozen, to twenty, and even forty. These are all of the kind formerly mentioned, whose produce generally, at two years old, is transferred to the grazier, and by him prepared for the English markets. The great and evident defect in the management of farms of this last description, is the want of a sufficient quantity of wholesome nourishing food during the winter season. This is a grievous defect indeed, which they often sorely feel, though they have not yet found the way to remedy it. And another, scarce inferior to it, is their keeping near a third part more stock on their ground than they ought to do. But, like other things complained of, it is only time, and perhaps a little additional rent, that will cause them alter their plans. For since the great advance in the price of stock, the tenants on these farms are generally supposed to be in a more prosperous state than those upon farms where tillage is the chief concern.

These cursory remarks on the present state of Ayrshire husbandry will present to the reader no unfavourable view of the county upon the whole. It is indeed a county of that extent and importance in the national scale, that no man who regards the welfare of his country can behold its rapidly increasing improvement with indifference. Even as it is, let a patriot or a philanthropist place themselves upon the top of Loudon or Brown-Carrick hill, and cast their eye along the fertile plains of Kyle and Cuningham, and turn round to the vales and dales of Carrick, and even 'over the hills where Girvan, Doon and Stinchar flow,' it is impossible that he can contemplate the enlivened and varied scene without the most animated satisfaction and delight, which it would require the genius of her native bard fully to describe. They would feel a kind of prophetic inspiration, and be ready to foretell, that if the same enlightened and fostering genius that has

presided over its infancy shall continue to guide and nourish its future progress, the county of Ayr at no very distant period will rival the fairest and most productive counties in Scotland, and come very little behind many even in England itself.

It would be a desirable thing, if it could be obtained, to have the real annual *value* of all these various objects of industry fully ascertained. This would go far to decide that important question, about which so much speculation and so many complaints have been raised,—the extent of rent. For, as it is from the produce of the farm that the rent alone can be paid, it is the *quantum* of that produce that can determine what the rent ought to be. But here a difficulty presents itself, *in limine*, 'What proportion of that produce ought the landholder in justice to receive?' This is a nice question, and which, it is apprehended, cannot be speedily answered. There are such a variety of points that must be brought into the calculation, that in fact it is the most difficult thing in the world to settle it upon fair and equitable principles. Besides skill and industry in management, and variable seasons, which some people will think matters of the first consideration, the state of national prosperity and public regulations must be brought under review; the increase or depression of population, of trade and manufactures, of the value of farm produce, and the probable prospect of future amelioriations; all these must be duly weighed before a rent can be pronounced too little or too much. The regulations respecting this matter have varied in different ages and nations. We are told, that in Egypt, in ancient times, the fifth of the produce was the stipulated demand. In China, at the present time, the emperor, who is sole lord of the soil, receives the tenth in lieu of rent and all taxes. The British landholder, who has his share of the public expenses to pay, and is subjected, with other men, to the advance in the price of articles of daily consumpt, will probably think either of these shares of the produce too little. If men's jarring interests and passions would allow them to judge candidly, the point would be more easily settled. If we should then lay it down as an axiom, that proprietors and tenants have a joint right in the property, that their interests are equal, and so mutual and reciprocal, that they must stand or fall together; if we admit of this principle, we are come a step nearer, and will be more disposed to admit of the conclusion, viz. That when there is an allowed equality in these things, there ought also to be an equality allowed in dividing the produce. Suppose that produce is divided into three equal parts, the landlord would receive one third for rent; one third would be allowed for expense of management and public charges; and the

other

other as an equivalent for the tenant's trouble, the interest on his capital stock, and his profit.

Whether this or any more equitable mode shall be resorted to, let landholders lay it down as a proposition as certain as any in Euclid, 'That their interest, and the interest of their tenants, are inseparable.' Let them therefore endeavour to render them respectable and independent. Let them give every encouragement in their power, such as a sufficient duration of lease; rendering that lease a truly marketable commodity; freeing them from milns and every other species of servitude; affording good farm-steads, and every other necessary accommodation of inclosures, roads, and ready markets. Let tenants, on the other hand, resolve to give the proprietor a fair and honest compensation for the possession of the ground, and the permanent improvements he may have made upon it. Thus they will be mutual aids to each other, and the country will rapidly increase in beauty, wealth and prosperity.

These things press so much upon my mind, that were I to indulge them, they would make me trespass on your bounds, which I am afraid I have done already. But you may divide or lop off superfluities as you judge proper. I shall therefore conclude with my best wishes for your future success, only craving leave to add the noble motto of your Magazine, as an appropriate epilogue to a dissertation of this kind.

'Ye generous Britons, venerate the plough,
And o'er your hills, and long withdrawing vales,
Let Autumn spread her treasures to the sun.'

AGRICOLA.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the progressive Improvement of Agriculture in the District of Tweeddale.

SIR,

ACCORDING to promise, I send you a short statement of the progressive improvement of agriculture in Tweeddale district.

In the *first* place, as a general proof of the progress of improvement (excepting such abatement as may be made in consideration of the depreciation of money) I would state the *Rise of the rent of Land.* Farms, now falling out of lease, and which had been held only upon lease for nineteen years, give, upon new leasing for nineteen years, at an average, nearly three times their former rent; and this holds equally as to both arable and sheep farms. Yet farming expenses are very much increased: The price of horses,

wages of servants, and day-labourers, with the prices of iron, wood, &c. have all risen, I may safely say, to one and a half of what they were within these six years. The wages of women servants, for the summer half year, have risen with particular rapidity within these two years; the truth is, they were longer in starting than they were entitled to have been; for, considering the near equality of women's work to that of men, in the lighter country labours of planting, hoeing, haymaking and shearing, many farmers are of opinion that the wages of the women are still lowest, although they have been doubled, at an average, within these three or four years.

Arable Lands.—In the *Agricultural Survey of Tweeddale*, published in 1802, it is observed, that the rotation of Norfolk (viz. 1st, *fallow, dunged, under green drilled crop*; 2d, *bear sown off with grass seeds*; 3d, *hay*; 4th, *oats*) was nearly universally adopted upon *the old crofts*; but that the old system, as to *the outfield* (viz. *folding upon the sward, when too much fogged to be valuable in pasture with sheep or black cattle; then cropping it with oats so long as they would repay a little more than seed and labour; then leaving it in a state of exhaustion, to gather sward by unassisted nature's provision to that effect*) was still pretty prevalent. At present, in regard to the *old crofts*, the adoption of a proper system of rotation may be considered as universal; yet I would not venture to say but that, upon very narrow inspection, one solitary exception might here and there be found. In regard to the *out-field*, the old system is rapidly giving way to a better: aration is extending up the skirts of our hills, not for the purpose of obtaining, as formerly, oat crops so far as the limits of exhaustion will permit, but for the purpose of improving the pasture, by meliorating the land and laying it off in grass while in good heart. These encroachments on the skirts of the pasture hills are also frequently made for the purpose of making addition to the old crofts, and to be kept, along with them, in permanent tillage under the Norfolk rotation already alluded to; though I may here observe, that a rotation of five shifts (by interposing a crop of peas betwixt the oat crop and the *revert* to fallow) is sometimes in use upon rich land; the four-shift rotation being, however, generally preferred. In Traquair parish the dominion of the muircock has been thus considerably narrowed by the conversion of heather into grass.

The encouragement to enlarge the breadth of land destined to continued rotation tillage (or *crofting*) is increased, from the practice having become more general of hiring turnip fields, to be eaten upon the ground by sheep in flakes. Arable farmers, who have few cattle, or few or no sheep, and who might hesitate to extend their turnip crop, from distrust in their marketing skill in the

the purchase and sale of the animals that ought to consume them, may now lay their account with meeting a considerable competition for their turnip fields. And arable and sheep farming are thus more and more acting in co-operation, to the mutual benefit of both.

The hay crop is, in this system, the least profitable (when it can be disposed of at all) and the most precarious as to finding a market. With provision of this sort, which most sheep farms have within themselves, snow storms seldom occur of that duration as to cause a sufficient demand for the hay now raised in Tweeddale for the maintenance of the sheep. There are no extensive manufactures to imply a consumpt from horses used in carriage; and the demand from inns is very trifling: Edinburgh (at the average distance say of 25 miles) is the only market sufficiently large to take off the surplus. In this deficiency of regular market, many farmers prefer pasturing their sown grass to cutting it for hay, after the general fashion of your East Lothian farmers; but the want of enclosure incapacitates their fields for such appropriation *. From the small extent of our arable fields, compared to those in East Lothian, such enclosure of each field of the shift would come much more expensive than the benefit would repay; because the generality of our fields only extend from 6 to 12 acres. Our farmers would, nevertheless, be willing to pay full interest for such enclosure; and it would certainly be advantageous for the unentailed proprietor even to borrow money for the purpose, as, during the currency of the lease, he could be no loser in getting common interest for his money; and, at the end thereof, he might expect a rise, not otherwise attainable, by having thus put the tenant in a capacity of carrying his farming to its highest stretch, and showing what the farm could do when placed under such favourable circumstances. By enclosure, however, I must be understood to mean substantial stone dyke enclosure; I believe no Tweeddale tenant would consent to pay interest for a hedge; and would almost rather pass from such enclosure, than consent merely to the burthen of upholding.

The cultivation of *wheat*, after having been given up, has been introduced again within these few years, and is more and more extending. The most extensive sowing is by Mr Park (alluded to in the foot note of page 52d of the Agricultural Survey of Tweeddale). His fields may lye at the elevation of about four hundred

* The extreme barrenneſs of this Spring cleared all our farmers' hands of their hay, at the rate, generally, of eightcenpence per ſtone, lifted at the door.

hundred feet above sea level. He informs me he had last season about fifty acres under that crop, which proved of excellent quality, and has encouraged him to extend his sowing to near one hundred this season. His wheat is sown, after turnip eaten by sheep upon the ground; and he continued this season to sow, as the sheep cleared the land, through the whole of the month of February. Some part of this year's sowing is after clover lea. Mr Campbell, proprietor of Kailzie, follows, in his farming, the rotation of four shifts, already mentioned; and, for the last two crops, he has had wheat in the very unexpensive mode of substituting it for the oat crop, after cutting both first and after-growth of his hay field, and without any dung. The crops, he says, are not luxuriant; but, nevertheless, much more profitable than any other crop after a clover lea, which encourages him to proceed. His fields may lye four hundred and fifty feet above sea level; his soil is deep free clay. In a lighter soil, it is continuing to be cultivated in a very small, but increasing extent, in Peebles and Eddlestone parishes, at from five to six hundred feet above sea level. Here it is chiefly sown upon that part of the drill crop and fallow which was under potatoes; and which (for want of demand for more almost than mere family use) bears small proportion to the part under turnip, and may be confined, in each farm, to one or two acres: a little lime, or sprinkling of dung, is given after raising the potatoes. Like every thing new, the practice has its advocates and opposers, as profitable both immediately and ultimately, or as ultimately unprofitable.

It is pleasing to observe the increasing extension of these enlightened views of self-interest, which lead to the relinquishment of present advantages, in prospect of superior advantage in future: this, indeed, is the essential of all improvement; *disinterested improvement* being, in most cases, a contradiction in terms. I am led to this reflection by an instance in point, (occurring last season in the practice of one of the members of Eddlestone Club), of a sacrifice of advantages already obtained, to the superior, but more distant advantage, of getting his whole tillage lands at once into a proper system of rotation. The croft-land of his farm, (at the east end of which his houses were set down), consisted of betwixt fifty and sixty acres, which he entered to in a most wretched condition. Besides improvements on the hill part of the farm for pasture, he found it convenient to add to the croft for continued rotation tillage, under the four shifts, as before stated. His additions, however, did not render his crofts more square in shape; they extended to a great length (westward from the house) in proportion to their breadth. He therefore found it highly expedient, in order to save carriage both of dung and turnip,

nip, to divide his land into two, and to put each of the halves into separate subdivisions of four fields each, each of the four consisting of ten or twelve acres, the four fields nearest the onstead to be carried on with dung from it, and the turnips pulled and eaten in the house; the four farthest from the onstead to get little or no dung, but to depend chiefly, for their enrichment, upon having the turnip consumed by sheep upon the ground. In doing so at once, he was obliged to disregard the arrangement of cropping, under which the land had been placed, as he could originally correct it, in the course of improving; for this purpose, it was necessary, in one of the new subdivisions, to plough up for turnip about seven acres which had been sown out with grass-seeds with the preceding crop, without taking a crop of hay; and also to convert again into turnip-crop about half that quantity, in this subdivision, which had been turnip the preceding season. In another subdivision, twelve acres, which had borne one crop after turnip, was put under turnip-crop again; the other cross cropping to which he was reduced, need not be specified in illustration, as implying no such relinquishment of advantages already obtained. It may be alleged, and justly, that, had the ultimate advantage to be obtained by this new division been clearly discerned at the outset, an arrangement suitable to these views might have been adopted from the first; though, I believe, in farming, and in every thing, few conceive at first that extent of design which develops itself to them in the course of practice. Be that, however, as it may, to me, who can recollect the state of the county for more than thirty years back, such power of self-denial, as to immediate advantage, in *a tenant*, upon the transitory tenure of a nineteen years' lease, forms a pleasing contrast to the short-sighted, unenlightened graspings at present advantage then prevalent;—when I have known *a proprietor*, after being goaded on by a mere sense of shame to dress a field in turnip, incapable of relinquishing the advantage of two white crops before sowing it with grass; or of breaking it up from sown grass, without two years crops of hay.

Sheep-farming must be considered as the staple husbandry of this county.

In regard to the arable land attached to sheep farms, the observations already made are applicable.

The Cheviot breed, noticed as introduced in the survey of Tweedale published in 1802, have now become prevalent: I may safely say, that two thirds, or rather three fourths of the Tweeddale mountains are occupied by them; they are in possession of the highest lying farms in the parishes of Linton and Tweedsmuir, the highest lying parishes of the county.

Excepting

Excepting the risk of death in the lambs in bad weather, from their greater nakedness when dropt, they have the character of health and hardiness. From the superior fineness of wool, they seem to yield nearly half-a-crown *per* fleece more than the old black-faced coarse-woolled horned breed. As to their yield to the butcher (which must ultimately decide their value), the point may not as yet be perfectly ascertained; or whether on grass of the same coarseness, either lambs or old sheep will fatten as readily as the coarse-woolled species *? Meantime, this circumstance is of less importance as to immediate profit; as the ewe-lambs bear a higher price than for killing, with those who wish to get into that breed; and even the wedder-lambs are in request from the demand of those who wish to plenish high-lying farms in wedders of that species for the immediate object of the higher price of their wool. At present, however, sheep farmers must contrive (at the rents now given) to make each individual stock sheep pay from 7s. to near 10s. of yearly rent; and it is alleged that the old breed could not pay the rents of the new leases.

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* For the purpose of a comparative trial, a farmer, in the parish of Eddlestone, upon a low-lying farm, where he kept the white-faced breed, bought in some wedder lambs of the black-faced breed from a neighbouring farm, and started them fairly against an equal number of his own wedder lambs; both being the best that their respective farms could produce. They were equally treated in all respects; and both were, at two years old, sold fat to the butcher; when, besides the superior current profit of the wool during the keeping, the white-faced proved best in carcase, and also fewer of them had died in the currency of the experiment.

Two years since, I happened to meet with a farmer from the parish of Maxton in Roxburghshire, who informed me, that he had once bought in sheep to be fed off upon land laid down in improved pasture; a proportion of them were of the Cheviot breed; and the rest of the black-faced Tweeddale breed, from the farm of Ormiston in Inverleithan parish. He bargained with a butcher to take the whole parcel (they were ewes and lambs), as they should get ready; the whole to be taken away against a given time, and the butcher having a privilege to reject a specified number both of the lambs and dams. The whole of the Tweeddale lambs were uplifted before any of the Cheviots were taken away; and the same with the dams; and all the lambs and dams rejected by the butcher were of the Cheviot breed.

I give these facts as I have them,—well aware, that little can be inferred from single facts; and that in regard to every particular fact, *the whole circumstances* ought to be taken into consideration, before a just inference can be drawn from it.

It is said, that fewer of the Cheviot can be maintained upon a given quantity of pasture than of the Tweeddale breed,—in the proportion, it has been alleged, of nine to ten.

I shall conclude my present essay by giving an account of an experiment made, and of another imported, by Sir George Montgomerie of Magbiehill.

This winter Sir George had a large quantity of turnip stored up in long narrow ridges, piled upon one another, till terminating in a narrow ridge, like cannon shot in an arsenal. In one of those ridges he had made the servants place all the turnip with the shaw end undermost, in the view of their standing firmer, till thatch could be laid over them, and with the less danger of tumbling down: the rest had been piled up higgeldy-piggeldy, just as they came to hand. The first mentioned were the last in being used; and, yet they exhibited no marks of sprouting, which the latter had done. It may be worth while for turnip storers to repeat an experiment so very easily made. I may add, as to storing, that, for spring food, it is often done by raising earth over them, where they grow, by the plough.

The second experiment is an English invention, to secure trees against being barked, in winter, by the deer in deer-parks. The trees are whitewashed, from the ground to beyond reach of the animal, with thin lime-mortar, laid on from a bucket by a painter's whitening brush. The materials are cheap; the operation expeditious. The recipe I have witnessed to be perfectly effectual at Mr Loch's of Rachan; where his trees are always, in winter, exposed both to sheep and hares; by both of which they had been in use to be much injured.

I am, Sir, your most obedient servant,

Tweeddale, 8th April 1807. F.

P. S.—Since writing the above, I have been favoured, by the last mentioned gentleman, with a register of his dates of commencing and finishing of sowing and reaping. The preservation of such registers would prevent farmers from being disproportionately elevated or depressed at the recurrence of early or late spring seasons.

In his accompanying letter he makes the following general remark;—that comparing the annual produce, twenty-five years since, with the present annual returns of the arable lands around his place, within a circle of ten miles radius (taking in every thing well or ill farmed) the return of oats was only about three seeds, and may now be about four. Thus, you see that, even under improved farming, the multiplication of provisions goes on at a very slow rate; and how soon we might be reduced to mutual cutting of throats, to avoid universal starving, were every one, so soon as able, to set to work to increase and multiply. In various parts of America, population has doubled in fifteen years; and, of course

course, might quadruple in thirty years; and we might propagate at an equal rate, had we equal resource of unoccupied land to afford meat for all the mouths that might equally speedily be opened.

Register above referred to, which relates to Oats and Peat; Barley being sown, in general, about the beginning of May.

Dates of sowing, from 1773 to 1806.	Dates of shearing, from 1773 to 1806.
1773, Began 17. March.	Began August 31.;—Ended 4. October.
1774, Do. 26. Do.	Do. Sept. 17. Do. 5. October.
1775, Do. 22. Do.	Do. August 24. Do. 28. September.
1776, Do. 26. Do.	Do. Sept. 3. Do. 8. October.
1777, Do. 20. Do.	Do. Do. 1. Do. 30. September.
1778, Do. 7. April.	Do. Do. 7. Do. 13. October.
1779, ... Finished 19. March.	Do. August 23. Do. 26. September.

The above in the Parish of Coulter, Lanarkshire;—the following at Rachan, Peebleshire.

1780, Began 8. April;—Finished 26. April.	Began Sept. 5.;—Ended 30. September.
1781, Do. 20. March, Do. 30. Mar.	Do. Aug. 29. Do. 22. Do.
1782, Do. 8. April, Do. 26. April.	Do. Sept. 19. Do. 11. November.
1783, Do. 18. March, Do. 9. Do.	Do. Do. 2. Do. 10. October.
1784, Do. 5. April. Do. 23. Do.	Do. Do. 27. Do. 22. Do.
1785, omitted, but must have been in April, as March was constant frost.	Do. Aug. 23. Do. 13. Do.
1786, Began 31. March;—Finished in April.	Do. Do. 28. Do. 16. Do.
1787, Do. 19. Do. Do. in Do.	Do. Sept. 26. Do. 2. November.
1788, Do. 26. Do. Do. in Do.	Do. Do. 8. Do. 14. October.
1789, Do. 6. April, Do. in Do.	Do. Do. 16. Do. 26. Do.
1790, Do. 15. March, Do. 29. Mar.	Do. Do. 27. Do. 21. Do.
1791, Do. 17. Do. Do. 7. April.	Do. Do. 19. Do. all in on 29. Do.
1792, Do. 4. April, Do. 16. Do.	Do. Do. 24. Do. &do. 27. Do.
1793, Do. 25. March, Do. 5. Do.	Do. Oct. 7. Do. &do. 28. Do.
1794, Do. 22. Do. Do. 5. Do.	Do. Sept. 8.;—Ended 29. September.
1795, Do. 2. April Do. in Do.	Do. Do. 21. Do. & in 26. October.
1796, Do. 12. March Do. 13. Do.	Do. Do. 19. Do. &do. 26. Do.
1797, Do. 16. Do. Do. 14. Do.	Do. Do. 23.;—Ended 1. November.
1798, Do. 28. Do. Do. 17. Do.	Do. Aug. 22. Do. & in 3. October.
1799, Do. 28. Do. Do. 17. Do.	Do. Sept. 26 Do. 31. Oct. not in till 30. *Nov.*
1800, Do. 24. Do. Do. 22. Do.	Do. Aug. 26. Do. 25. Sept. and in 7. Oct.
1801, Do. 12. Do. Do. 6. Do.	Do. Do. 31. Do. 24. Do. in 30. Sept.
1802, Do. 23. Do. Do. 3. Do.	Do. Sept. 20. Do. 15. Do. in 22. October.
1803, Do. 21. Do. Do. 12. Do.	Do. Aug 29.;—Ended 29. September.
1804, Do. 3. April, Do. 11. Do.	Do. Sept. 3. Do. 1. October.
1805, Do. 21. March, Do. 4. Do.	Do. Do. 4. Do. 26. September.
1806, Do. 25. Do. Do. 5. Do.	Do. Do. 1. Do. 6. October.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Strictures on instituting Evening Schools for the instruction of Farm Servants.

SIR,

I READ in the 7th volume of your Magazine, page 456, a paper which brought the grand academy of Langado * to my recollection. Your Banffshire correspondent's proposals seem the counterpart of the project for communicating the knowledge of all the *arts* and sciences, without the least assistance of genius or study, but by the mere mechanical movements of a frame containing all the words of the language of the country lying in promiscuous disorder.

Notwithstanding the numerous improvements which have of late been made, and which have contributed largely to ameliorate the condition of men in every rank of society, enough of moral and physical evil still remains, sadly to assure the philanthropist that the golden age has not yet returned.

It is, however, the duty of every man, by active benevolence, to increase the *good*, and diminish the *ill* of human life, as much as may be in his power. On this principle the zeal of your correspondent to diffuse knowledge more extensively among farm servants is commendable. But, in admitting that he was prompted by good motives to give publicity to his scheme for that purpose, is surely all the merit to which he has any claim. Had he reflected, he must have seen that it was unnecessary, impracticable, and could be followed with no good consequences.

Have we not parochial schools, which render the means of attaining education easy in this country? Have not those who live too remote to enjoy the advantages resulting from them, and at the same time sensible of their utility, erected schools and employed teachers for the benefit of their offspring entirely at their own expense? Have we not schools endowed with the bounty of the charitable? Do not teachers frequently open schools at their own risk, with success? Is it not customary in many places, in the west of Scotland, where parishes are extensive in point of territory, and but thinly inhabited, for young persons, who have spent the summer at school, to employ themselves as itinerant teachers during winter?

These are facts which can neither be denied nor disputed; and surely they go a great way to supersede the necessity of new erections merely for farm servants. Yes, says your correspondent,

* Gulliver's Voyage to Laputa.

ent, we have schools; but many, on account of the poverty of their parents, are denied the least access to them, and must spend their early years in servitude, and grow to manhood in complete ignorance; *ergo* the necessity of evening schools for their instruction. Has he forgotten that, by a late act, the children of paupers are taught *gratis;* and that, even before the existence of that act, it was customary to defray the expense of educating to a certain extent the children of the indigent from the poor's funds. Knowledge is the cheapest commodity we have. A whole year's attendance at a country school does not exceed ten or twelve shillings, and in many places not so much by one third. The poorest, therefore, may receive an education suitable to their situation in life; and I deny the assertion, that they are put to service at so tender an age as your correspondent asserts. Farmers have no use for hired infants. Agricultural operations are not of a nature to be facilitated by persons younger than twelve years at least, and they may be at school at the age of six or seven. These five or six years may be spent advantageously at school, or be totally lost in idleness. If any are too indigent to afford, or too wicked to neglect, the education of their children in youth, they need not, however, grow to manhood or remain in complete ignorance. Nothing is more common than for teachers to have evening classes; and I will answer for them, that they will be very glad to see farm servants, when they can command time to attend them. Where, then, the necessity for new establishments?

Besides, your correspondent's scheme is impracticable. If only one of these rural academies is intended for each parish, many will be prevented from attending it on account of its distance. If the plan is to erect as many as may make them convenient for all, then the expense will be too great: a school must be an appendage to almost every farm-steading, and teachers will be greatly increased, while they cannot subsist on so slender fare as the cameleon. Winter is the only season which affords any time for such a purpose; and female servants, who are most likely to need instructions, cannot even then command time. The interests of masters and servants would be perpetually clashing; they cannot serve two masters with equal conscientiousness. Whilst the novelty of these evening schools remained, they might be attended; but as soon as they became familiar, it is more than probable they would be neglected. Besides, farm servants are naturally of a roving disposition, and are easily induced to change from one place to another. What permanency or stability can be expected to institutions, the chief supporters of which are liable to remove from Dan even to Beersheba? Though they have high wages, I question if they would like to spend much of

their

their money in this way. Ministers, I trust, have deservedly great influence over that class of parishioners alluded to by your correspondent; they have not, however, been able to prevail on those who have received an education in youth to read their Bibles so often as they ought to do. What success they might have, were they to insist on the propriety of contributing their money to erect schools and constitute libraries, remains to be tried.

But admitting that it is necessary that something be done for the instruction of farm servants, and also that there is no barrier to prevent the execution of your correspondent's scheme, allow me to ask, what beneficial effects could result from such institutions? With him, however, the benefits are omnipotent, their effects instantaneous and happy. No sooner are evening schools established than men, who, before their existence, were stupid, rude and obscene, are transformed, as with Harlequin's wand, into paragons of intelligence, politeness and decency. Why, in magnifying a chimera, does he offer so gross an indignity to a numerous and respectable class of the community? Why does he make so many unfounded and ill-mannered assertions? I appeal to your readers, if farm servants be not in general as respectable and as well informed as any other class of men who must earn their bread with the sweat of their brows. With regard to patriotism, I only ask your correspondent who are our volunteers? Frothy declamation, or a striking antithesis, cannot affect truth.

If farm servants are in the state of savage ignorance that is supposed, some time will be necessary to overcome bad habits, and contract new ones. I have no objection whatever to parish libraries, but despair of ever seeing them general if their establishment is left to the peasantry. They have no time for deep research or laborious investigation, therefore need few books. Had they leisure to acquire knowledge from books, and were they as successful as is pretended, yet the effects would not be good. Would men of such acquirements quietly submit to 'break the stubborn glebe?' Is not the love of ease a natural desire? Is not ambition a general feeling? And would not many, acting on these principles, be tempted to leave the *painful plough*, and aspire to situations in their estimation more honourable and less laborious? Hence the foundation would be laid for disappointment, disgrace and misery.

GNESIES.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the High Rate of Rent.—Reply to R. M. p. 52.

SIR,

IN the 29th Number of your Magazine, some remarks are inserted, upon an essay which I sent you, on the present rise in the rate of rents. In these remarks, your correspondent R. M. attempts to prove, that the reasons I had brought forward to account for the extraordinary rise of land rents, were ill founded. Whether he has been successful or not, in determining the point at issue, your readers will judge.

The principle I wished to establish, or the position laid down in the paper alluded to, was, that one great cause of the present advance of rents, originated from the competition among farmers themselves, occasioned by proprietors throwing several of their small farms into larger ones. Other causes, no doubt, have operated in producing the same effect; but to me, this appears at least one of the most obvious and striking. Indeed, the general train of reasoning employed by your correspondent confirms it; for he has laid it down as an axiom, and it is frequently repeated in the course of his remarks, 'that the rate of every article brought to market, depends upon the proportion between the demand, and the quantity exposed to sale.' To the truth of this proposition, I readily assent; and it is precisely upon this basis that I have grounded my arguments. For, if the number of farms be reduced, and the former number of farmers still come forward as competitors, the quantity (at least the individual portions) is reduced, while the demand is enlarged; or the number of farms in the market, is not in proportion to the number of farmers to purchase. This, I think, must be clear to every one who is at the trouble to examine the question.

The instance which R. M. brings forward to exemplify his argument in the case supposed, is not strictly applicable to the general state of actual affairs,—so far, at least, as they have fallen within the compass of my observation. For, though I have remarked the system of combining farms frequently practised, I have not seen an instance of any proprietor, who has reduced the number of his farms, or, which is the same thing, has increased their size in the proportion of ten to one. Were such generally the case, the competition, instead of being encouraged by the measure, would of necessity be greatly reduced, if not altogether destroyed; for, fortunate as the speculations of the farmer of late have been, in such circumstances, if any competition took place,

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it could only be maintained by capitalists and monied men of a higher cast, to whose superior influence the poor minor farmer must yield the prize, and submit with silent acquiescence.

I shall give another case, as an instance, which comes nearer to the actual state of affairs. I shall suppose *two*, or *four* farms, lying in the immediate vicinity of each other, and occupied by as many separate tenants. Let me suppose likewise, that each of these has been industrious and successful, and has reaped a decent share of the profits due to agricultural enterprise. Their leases have expired; and their landlord, adopting the system I have stated, proposes letting the whole in one, or, at farthest, in two farms. What is the consequence? Each of these tenants having secured a little capital from his former industry, and depending on his own activity and good management, thinks that he can undertake the whole, not doubting that his capital and credit, joined with his superior economy, will secure him a safe, if not an advantageous bargain, though he should adventure a little farther than common prudence would dictate. He considers, that since he had obtained a decent competency on his small farm, that he might at least acquire the same, if not a greater share of profit on a larger farm. Besides, if he does not stretch his offer by outbidding his neighbour while the opportunity is presented, he must lay his account, either to retire to some other part of the country, or give up his present employment altogether. In such a case as I have supposed, and it is by no means an uncommon one, we have at least *two*, if not *four* candidates, for each farm. Does not this, from every parity of reasoning in other cases, create a very spirited competition; and must not such a competition, produce a very considerable effect in raising the rate of rents?—Your correspondent R. M. must have lived in a fortunate part of the country, if he has not observed numerous instances of cases analagous to that I have here supposed.

The question respecting the advantages and disadvantages of large and small farms, has been frequently agitated; and those who are best informed in rural affairs, consequently most competent to decide the point, have generally given their determination in favour of the former. A proper medium, however, in this, as in other cases, will be the safest course to be pursued. The superior management on large farms, when compared with that on those of small size, will, from the nature of things, be generally admitted. Nor can it be wished by any person who entertains a sincere regard to the welfare of the country, that the exertions of the active and enterprising farmer, more than those of any other member of society, should be circumscribed within

certain limits, when capital and inclination enable him to enlarge the scale of his operations. Under certain circumstances, it is both the interest of the landlord and the tenant, that farms should be enlarged; but under different circumstances, it may be found neither prudent nor advantageous, that such a system should be introduced. The state of the country, the capital, the manners and habits of the inhabitants, ought to be previously taken into consideration, before any sweeping conclusion, applicable to the whole, can be adopted.

It is probable, that a greater part of the soil, now in a waste, or comparatively unproductive condition, might be reclaimed, or brought into a rotation of profitable crops, by granting suitable proportions of it, on improving leases and liberal terms, to small farmers, enjoining them to bring annually a certain quantity into cultivation, than by increasing the size of farms at present in such a state. Nay, perhaps this might do more towards increasing the disposable produce of the country, than would be derived from the superior cultivation of large farms. Such a mode of procedure, would operate more powerfully in maintaining that spirit of freedom and independence among the peasantry of this country, than the opposite mode of dividing it among a comparatively small number of individuals; since, as R. M. pronounces in another part of his essay, it is chiefly owing to this cause, that our superiority over our more fortunately situated neighbours, who are blest with a more genial climate and a richer soil, is so strikingly manifested. If the difference of labour performed by the person hired by the day, and him who performs piecework, be so apparent, then, from a similarity of reasoning we must infer, that the man who labours his own small property or farm, will exert a similar superiority to the hired servant; for, in the former case, he reaps the whole of the profits derived from his exertions, whereas, in the other, these must be divided with his master.

A person who is placed in a situation of ease and independence, may speak in terms of indifference of turning people 'adrift,' or obliging them to give up their small possessions to a more wealthy and fortunate neighbour, however harsh the expression may sound in the ears of the feeling and humane. By depopulating the country, and increasing the number of inhabitants in large towns, in many instances too much extended already, I think neither the moral nor political interest of the state are consulted. It must be acknowledged by all, that the inhabitants of any country, when profitably employed, are its greatest strength, as well as its truest riches. That those employed in the pursuits of agriculture are the most useful and productive members of the community,

community, cannot, I think, be disputed. That the produce of Britain is not equal to its consumpt, is acknowledged on all hands; and, that the quantity of ground now under cultivation, bears a small proportion to that lying in a waste or comparatively unproductive state, is equally indisputable. Hence it appears, that the number of hands employed in the cultivation of the soil, ought to be augmented rather than diminished. For, when other causes, physical or political, do not operate in a very striking manner, every country where provisions are cheap and plentiful, holds out the strongest inducements to the merchant, the mechanic, and manufacturer, to fix their residence there. Agriculture, manufactures, and commerce, mutually support, and are supported by each other.

That the present rage for farming, and eagerness with which agricultural speculations are entered into, is got to a very great height, when compared with the different pursuits in other lines of life, is without a doubt. That the competition among farmers themselves, owing to the landlords throwing the possessions of several tenants into one, has been a principal mean of raising this scramble, and consequently, of increasing the rate of rents, appears to me most evident, notwithstanding what your correspondent has advanced to demonstrate the contrary. Without pretending any claim to the gift of prophecy, or even any superior foresight into futurity more than other people, as R. M. insinuates I have done, I shall conclude with repeating what I observed before on the subject, 'that time only can determine, how far such policy shall be ultimately successful.'

J—— P——.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Prices of Provisions and Labour.—Reply to R. M. p. 52.

SIR,

A CORRESPONDENT, in your 29th Number, having given some severe strictures on the 'Observations on the Prices of Provisions and Labour,' you will oblige me, by inserting, at your convenience, the following Reply, if you deem it worthy of a place in your Magazine. Your correspondent allows the truth of the fundamental proposition on which I founded all my reasoning, viz. That the price of labour, like the price of any other commodity, depends entirely upon the proportion between the demand and the quantity in the market; and that whatever lessens the demand, must lower the price of labour. He, however, denies, that a low price of provisions, by increasing the facility of living, will decrease the quantity of labour in use to be brought

to market. He goes on, 'to allow that high wages occaſion a partial diſſipation among the lower claſſes;' yet aſſerts, 'that it is downright nonſenſe to ſuppoſe, that a liberal reward will have the effect of making people work leſs.' I referred to the experience of the years 1799 and 1800, for a direct proof, that a very high price of proviſions occaſioned a greater quantity of labour to be brought into the market. Though corn was, during that period, ſo extremely high in price, labour, inſtead of riſing, fell very much below its former value. The high price of proviſions, by making it more difficult for a number of people to ſupport themſelves and families without labouring, neceſſarily brought a greater quantity of labour to market; and the inevitable conſequence of this competition for employment, was a rapid fall in the price of labour. Now, if this ſtatement be correct, and I think your correſpondent cannot deny it, it follows, that a high price of proviſions has a tendency to bring a greater quantity of labour into the market; and I muſt be allowed to hold the converſe of this propoſition alſo to be true, that a low price of proviſions will have the direct contrary effect, viz. that of decreaſing the quantity of labour brought to market. But is it conſonant, either to experience, or to the acknowledged principles of human actions, that man will wear himſelf down with toil and fatigue, if he can enjoy eaſe and comfort, without ſubjecting himſelf to unremitted labour? Were the prices of proviſions to fall one third below their preſent rate, a labourer would be enabled to procure as great a quantity by the labour of two days, as he can acquire at preſent by the labour of three days; and, taking the diſpoſition of labourers in general, it may be fairly ſuppoſed that he would do leſs work in the courſe of the week. Would he not be tempted, though even working at piece-work, to indulge himſelf with ſome eaſe? and though he would not perhaps lye idle a whole day in the week, would it not be very natural for him, inſtead of toiling a whole day from morning to night, to indulge himſelf with leaving off work a little ſooner? If we average that the generality of labourers would, in this caſe, work only one hour leſs per day, this will amount to ſix hours, or half a day per week, and thirteen labourers would be required to do the work of twelve; conſequently, if the demand continued the ſame, a competition would ariſe among the employers, and an advance of wages be the conſequence. For a confirmation of my reaſoning, I would refer to the very able diſquiſitions of Pol-Œconomicus, formerly inſerted in your Magazine, particularly to his Anſwer to Sir George MacKenzie, N° XXI. p. 37. & 38. He there conſiders the idea of the price of proviſions being the *ſtandard* by which the value of labour is regulated, as the reſult of falſe aſſociations

associations and casual conjunctions of superstitious theory and mistaken ignorance. 'It is true,' says he, 'that workmen do frequently urge *the hardness of the times*, as a mean of procuring a more liberal reward; but they do not *uniformly* appeal to the price of provisions as the *standard* by which they wish their wages to be regulated. They entirely depart from it in years of plenty, when their wages greatly exceed the necessaries of life; and nothing would displease them more, than the idea of appealing to such a standard. In this case, the imaginary scale becomes the hobby of the employer;—he mounts into the saddle which was the seat of the labourer in years of scarcity;—he employs the tricks of the buyer to depreciate the value of the commodity he wishes to purchase;—he remonstrates with the labourers on the extravagance of demanding the same wages, when provisions are only one half of their former price. But the labourers are as deaf to his reasoning in plenty, as he was to theirs in times of scarcity; and although the standard is employed alternately by either party, according to the oscillation of interest, in dearth or in abundance, yet we find, in fact, that it is a mere stalking-horse, by which the parties strive to approach their respective objects, but which has really little effect in promoting the end of either the one or the other.' I would again refer to the situation and habits of the labouring poor, as affording a direct proof, that their spirit of industry and application to labour, can be easily counteracted by the certain prospect of the future support, however scanty, afforded them by the poor's rates. How few of them, notwithstanding the present high price of labour, lay up any money for the support of their families in sickness or in old age? And would not the same disposition induce them to work less, if they could procure their present enjoyments by a smaller quantity of labour? I never dreamt of adducing our royal burghs as instances of the *otium cum dignitate;* they were brought forward as an example of *indolence and misery*, arising from the burgesses being the proprietors of small portions of land, from which they derive a facility of living, or rather of barely existing. At the same time, I have no objections to allow that the baneful influence of burgh politics, tends strongly to increase their indolence and misery, and to prevent them from applying themselves to trade or manufactures. Neither had I any intention of denying the tendency of political institutions to make a people happy or miserable; but I contend, that too great a facility of procuring food has, independent of political institutions, a strong tendency to produce indolence and inactivity; consequently, that with a given number of people, a smaller quantity of labour will be executed. The most rigid despotism does not always repress the spirit of industry, where

the difficulty of procuring ſubſiſtence furniſhes an all-powerful motive to the exertions of labour. The empire of China is a ſtriking example of this fact. There, although in poſſeſſion of a fine climate and fertile ſoil, the population is ſo immenſe, the difficulty of procuring food ſo great, and, conſequently, individual exertion ſo indiſpenſably neceſſary, that no nation on earth is more laborioufly induſtrious than the Chineſe, though groaning under the moſt gloomy and rigid deſpotiſm. However great may be the tendency of political liberty to produce induſtry and happineſs among *the labouring claſſes* of the community, yet no direct proof of this influence can be drawn from a compariſon betwixt the preſent ſtate of Italy, and that of its former condition under the Roman republic. For, during the ſplendid æra of Roman greatneſs, a great proportion, if not the whole, of the labouring claſſes, were ſlaves;—the Patrician families, and thoſe of the community alone, who were admitted to the rights of Roman citizens, enjoyed any ſhadow of liberty. Proofs, too, have been adduced by Mr Hume in his *Diſcourſe of the Populouſneſs of ancient nations*, that we have no reaſon to ſuppoſe, that Italy, at that time, was any better cultivated than at preſent. After citing many ancient authors, to prove that large tracts of foreſt, and of uncultivated ground exiſted, both in Greece and Italy, he adds, 'When the Roman authors complain, that Italy, which formerly exported corn, became dependent on all the provinces for its daily bread, they never aſcribe this alteration to the increaſe of its inhabitants, but to the neglect of tillage and agriculture. A natural effect of that pernicious practice of importing corn, in order to diſtribute it *gratis* among the Roman citizens, and a very bad means of multiplying the inhabitants of any country.'

As a diſpute on any ſubject, if protracted to too great a length, ceaſes to be intereſting to any but the diſputants themſelves, I ſhall not treſpaſs on the patience of your readers by any further remarks; but am, Sir, your conſtant reader, S. E.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Reply to Mr Sitwell, by a Yorkshire Farmer.

SIR,

IN the Twenty-ninth Number of your Magazine, vol. VIII. p. 1. I noticed ſome obſervations on Mr Cline's paper on the Formation of Domeſtic Animals. To the author of theſe obſervations, Mr Sitwell, the farming world and the public in general are under obligations for his very liberal and patriotic encouragement of agriculture. But I muſt confeſs that ſome of the obſervations in his letter appear to me to be erroneous.

The

The paper of Mr Cline being laid before the Board of Agriculture, was referred to a committee, and thought by the committee to poſſeſs ſo much merit, that it was recommended to preſent Mr Cline with the gold medal, the higheſt mark of approbation the Board can beſtow. The Farming Society of Ireland have thought proper to reprint Mr Cline's paper, for the purpoſe of circulating it in that country.

Mr Sitwell allows that the large breeds of ſheep have no horns; indeed all the moſt eſteemed breeds of ſheep in England are hornleſs. Moſt of the larger breeds of cattle are, it is true, horned in general; but, of moſt of theſe breeds, individuals may be found which are without horns,—the Teeſwater near Darlington, which have been fattened to a very great weight, and alſo the Devons near Barnſtable. The pure Galloway cattle are alſo hornleſs.

I have always preferred the polled cattle as leſs miſchievous, and, being more quiet, are rather more inclined to fatten; and they are much more convenient as working ſtock.

I have often reflected, with ſurpriſe, that Mr Bakewell, who ſo juſtly conſidered horns as offal in ſheep, ſhould have ſelected a breed of cattle bearing horns of the largeſt ſize.

Breeders of horſes (and in this diſtrict every farmer is more or leſs ſo) obſerve, that finer ſtock is produced by putting large mares to light blood ſtallions than *vice verſa*; a large mare having more room for the fœtus, and affording milk in proportion to the foal, than a ſmaller mare.

Mr Sitwell obſerves, that were the Merino ſheep to turn out the Leiceſters, there would 'be a want of a leg of mutton and a coat for a poor man's back.' I beg to obſerve, that my ewes, by a Merino tup, laſt year clipped ſeven pounds of wool each on an average; and that as much fine wool *per acre* can be grown as of coarſe; and that a coat of fine wool would be more agreeable, and much more ſerviceable to a poor man, than one made of coarſer wool. The form of the Merino ſheep has already received great improvement; and may we not hope that, by proper attention, this breed may produce as much mutton per acre as the larger breeds, even the New Leiceſter? That fine wool, and a propenſity to fatten, are not incompatible, is proved by thoſe flocks on the South Downs; which produce the fineſt fleece, and are always thoſe which are the ſooneſt fat.

Though I have not the good fortune to agree with Mr Sitwell in ſome of his obſervations, yet I perfectly coincide with him, that, to enable us to bring ſtock early to market, they ought, from the firſt, to be kept in high condition; indeed I believe it is more economical to keep all ſtock in very good order, as they are always ſaleable, and come to profit at an early age. I am, Sir, &c.

A YORKSHIRE FARMER.

TO

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Husbandry of Buchan.

SIR,

TAKING a retroſpective view of your uſeful and amuſing Magazine on a ſtormy day lately, when no agricultural employment could be carried on, except in barn and byre, I reſolved to take up the pen and furniſh my mite to ſuch a meritorious publication. The progreſs of agriculture, in this northern diſtrict of Aberdeenſhire, appeared worthy of public notice, and I reſolved to detail a few particulars concerning the paſt and preſent ſtate of rural matters in a quarter of the iſland little known to the public in general, though faſt advancing in almoſt every branch of improvement. Aberdeenſhire is one of the moſt extenſive counties in North Britain; but, as I am little acquainted with more of it than from ſix to ſixteen miles ſouth of the Murray Frith, I ſhall confine my obſervations within theſe bounds; wherein an alteration ſo extraordinary has taken place ſince 1760, that a perſon, who had left the diſtrict at that period, and was recently returned, would, in fact, recognize hardly any thing of the diſtrict except the ſhape of the old mountains. Every thing has progreſſively advanced, eſpecially ſince 1782;—and to agriculture belongs all the praiſe.

The ſoil of the diſtrict is in general light, of a dark brown colour, and of a ſoft, kindly and dry nature, incumbent for the moſt part upon gravel, though in ſome places upon clay, and in others upon rock; three fourths of the arable not exceeding, at an average, ſeven inches in depth of what we call *land earth*; and the other fourth, conſiſting of the ſtrongeſt ſoil, from nine to fourteen inches. It has lately been tried with different rotations of crops, but little advantage ſeems to have been gained from theſe experiments. Owing to the ſhallow, dry and inſipid nature of the ſoil, no wheat is raiſed except on the beſt farms; and, even on theſe, only a few acres are cropped with this grain. No flocks of ſheep are kept in the diſtrict,—nor is clean ſummer fallowing much practiſed; yet, in the memorable 1799 and 1800, it exported more grain * than any other diſtrict in Scotland, Eaſt Lothian excepted.

Of

* In March 1800, I learned from the agent of a corn-dealer in Banff, who was well acquainted with the ſtate of the country, that of that memorable bad crop, after paying landlord's farm, and miniſter's ſtipend, in oatmeal, the four pariſhes of Turriff, Aughterleſs, Fyvie and Forgue, exported each 3000 bolls, which at 2l. per boll, the current price, amounted to 24,000l. My informer, a very honeſt man, obſerved, that no other four neighbouring pariſhes in Scotland could ſpare ſuch a quantity.

Of all the experiments that have been tried within the laſt twenty years, by thoſe reckoned the moſt ſkilful and judicious farmers, none have been found ſo profitable as rearing young cattle, and raiſing of oats. As barley ſeldom comes to perfection in this climate, bigg, or common bear, is ſubſtituted in its room, and is found from experience to be a more profitable crop.

About forty years ago, agriculture was as little understood in the district under consideration, as at present in Lochaber or Badenoch; but since 1770, improvements have progressively advanced,—and at present, soil and situation considered, are equal to those in any county of Britain. The turnip and grass husbandry are cultivated to an amazing extent, and still appear to be increasing. Large fields of *heath* or *hedder*, are annually ploughed up and brought into a state of cultivation. In 1802, a spirited farmer, whose possession is eighteen miles distant from a sea-port, where lime could be procured, broke up fifty acres of moor; and in 1804, drove 1000 barrels of Sunderland lime-shells from Macduff to said moor, the prime cost of which at the harbour, was 100*l.* The barrel is equal to two Banffshire corn firlots, which contains 64 Scotch statute pints. As there is now an excellent turnpike road from Fyvie to Portsoy, single-horse carts, when the horses are good, generally carry five barrels each, and sometimes six. Lime is in great plenty in Banffshire, both on the coast and in the interior parts, but is much inferior to the English lime in quality. At Redhyve, west from Portsoy, a considerable manufactory of lime was erected some time ago, to which vast numbers of people resort. The kiln contains upwards of 1500 barrels, and is kept constantly burning from the first of May to the end of September. The shells sell at 1s. 4d. *per* barrel, and are always used by those who are improving coarse grounds, and wish to give them a large dose, though it is certain that two barrels of this kind of lime is heavier than three of the Sunderland.

In Aberdeenshire, the firlot by which oats, bear, malt, &c. are sold, contains 34 Scots pints. In Banffshire, the firlot holds only 32 pints; and the cause of this difference is attributed to the superior quality of the soil in the latter county, which yields so much better grain as fully to compensate the deficiency of measure. Four firlots make a boll of all kinds of grain, except peas, three firlots of which constitute a boll, if no bargain is made for bushel measure. Eight stones Dutch are reckoned the boll for all kinds of meal.

Having already hinted, that agricultural improvements had progressively advanced in the northern parts of Aberdeenshire during the last forty years, a few of them shall now be mentioned.

ed. About the year 1765, the largest farms in the place consisted of what could be laboured by two ploughs;—one of which, drawn by ten oxen, was held by the farmer, and drove by the gaudman; while the other, worked by six horses, was managed by a hired servant called the horseman, and a boy. The rent of such a farm might be 40 bolls of oatmeal and 100 merks of money. The wages of the horseman were 1*l.* 5s. and a pair of *broag-shoes*, for the half year; that of the *gaudman*, or oxen driver, 1*l.*; and that of the boy 10s., exclusive of a harden shirt and a pair of shoes. The oxen which went on the land-side of the plough might be valued at 2*l.* 10s., and those on the offside at 3*l. per* head; the best horses at 3*l.* 10s., and those of a second rate at 2*l.*;—the best cow on the farm at 2*l.* 5s., and a three year old stot at 1*l.* 15s. Meal, on an average, was never below 11s. nor above 13s. 4d. *per* boll of eight stones.

At present, upon such a farm, more work would be performed, and to better purpose, by four horses and two men, than by all the eight cattle, six horses and four men; owing entirely to the improved construction of ploughs, and the more improved modes of farm-management. The rent of the farm would now be 40 bolls of victual, and 40*l.* Sterling of money. The servants wages would be 7*l.* 7s. each, and the boy 2*l.* 10s.;—the land ox would cost 12*l.*, and the offside one 15*l.*;—the cow 9*l.*, and the three year old stot 10*l.*;—the first rate horse 30*l.*, and the second, or inferior one 20*l.* From these statements, it appears, that, on an average of years, grain has kept nearer its original standard than any other commodity the district produces. The writer of this article, who possesses the farm occupied by his father forty-nine years ago, last year paid more in taxes for his house, horses, and malt, than his father paid of money-rent to the landlord at the time alluded to. Some people are constantly complaining that times are much worse than forty years ago, without being able to assign any plausible reason why this should be the case; but, to me, things appear in a different point of view; for it is obvious, that money is much more plentiful, and that mankind in general know better how to use and enjoy it, than to bury it in the earth,—no uncommon practice in those days.

Some months ago, I had an agreeable conversation with a respectable old farmer in this country, whose son now possesses the farm stocked by him in 1747. This venerable old man, who has completed the eighty-ninth year of his age, and yet appears to possess his mental powers in full perfection, told me, that at his father's death, by which event he became possessed of four hundred merks of patrimony, he found it necessary, as being only the second son, to go to service; and that the highest wage he ever

ever obtained was 16s. 8d. in the half year: That in 1741, he agreed with a landed proprietor, to cast a ditch through a piece of mossy ground, ten feet wide at top, six at bottom, and six feet deep, at 8 pennies Scots, or $\frac{1}{3}$ of a penny Sterling, *per* ell; and that, while thus employed, he paid 13d. Sterling *per* week for his board: That by persevering in a course of honest industry and frugality, he found his stock, in 1747, increased to 50*l.* Sterling, with which he purchased eight oxen, all under six years of age, three cows, three horses, four one year old stots and queys; furnished his house, purchased ploughs, harrows, &c.; paid the expence of his marriage, servants' wages and other incidents;—and that at Lammas 1748, when he began to harvest his first crop, he was not due a penny to the world. He gave me a distinct account of the prime cost of each article; but, as I am not certain that I can detail the particulars with correctness, shall only say, by way of example, that his two carts, with the necessary apparatus, purchased at St. James's fair at Elgin, in 1747, cost no more than seven shillings. Great indeed, now, is the alteration; for, upon the same farm, each cart would cost 10*l.*, and each horse 20*l.* at least.

Great as these changes may appear to be, (and undoubtedly they are not inconsiderable), yet those which have taken place in the home, or household departments, seem still to exceed them. About forty years ago, three or four wooden bedsteads, the like number of meal casks, a few chests for holding the clothes of the family, and a sufficient number of ale barrels and dry casks, constituted nearly the whole furniture of the farm-house. The kitchen was the only apartment which contained a fire-place, and, of consequence, became the place of residence for the whole family, there being no difference observed betwixt master and servant, save only that the goodman and goodwife got the most convenient places at the fireside, and were honoured with the uppermost seats at table. When a farmer in those days was visited by a friend, he either entertained him at the kitchen fire in presence of his servants; or, if any particular business was to be transacted, they retired to the nearest alehouse for that purpose,—in which place, the tedious winter evening was often spent with much festivity and good-humour, and at little expense. No farmer, however, now-a-days, is under that necessity, as the modern farm-houses generally consist of a large commodious kitchen, and of at least four or five rooms, floored, ceiled, and painted, and all well furnished out in an elegant manner,—in the principal one of which resides the farmer and his family; so that he has as little connexion with his servants as the lord of the manor has with his,—and can at all times receive and entertain a friend as hospitably

hospitably and genteelly as could be wished for, without any interruption from servants, or their so much as knowing who is in the house. The like difference may be observed as to wearing apparel. Formerly, a landed proprietor and clergyman could be easily recognized at church on a Sunday by their hat and coat of English cloth;—the farmers and the rest of the society being provided only with blue bonnets, and cloths of home manufacture. The blue bonnet, however, and homespun coat, now cease to exist among farmers, and indeed, are rarely to be observed on a Sunday, even among their servants. This luxury of dress, if I may be allowed the expression, is still more observable in the female sex, though I cannot describe the particulars so minutely. Suffice it therefore to say, on the whole, and I am certain the assertion is just, that at present, more money goes from Aberdeenshire every year for broadcloths, callicoes, tea and sugar, than, fifty years ago, came to it for cattle and grain.

It remains only now, to inquire what effect these wonderful changes may have had upon the morals of the inhabitants. It is readily admitted, that all classes of the community have attained to a degree of *politeness* formerly unknown; but it is not so certain that *true piety* has made any advances,—or, rather, that it has not been for some time past in a retrograde state. Fifty years ago, the stated employment of the farmer and his wife, every Sunday evening, was to catechise their children and servants, read and explain to them the scriptures, and perform the duty of family worship; but as these laudable practices seem now to have gone much into desuetude, there is reason to fear, that, in general, the principles of our religion are not so well understood as in those days, and, of course, will have less influence upon the lives and conversations of its professors. I am, Sir, yours, &c.

A Buchan Farmer.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Husbandry of Galloway—Reply to Arator.

Sir,

About two years ago, I sent you a short essay upon the value of land in different districts, which you were kind enough to insert in your Magazine. By bringing that subject before the public in the shape that I did in that essay, I thought to have seen it at that time amply discussed by some of your enlightened correspondents. In that, however, I was rather disappointed. But I am happy to find that Arator, in the twenty-eighth Number of your Magazine, has taken the subject in hand. Now, although

Arator's

Arator's practical abilities have been eminently displayed in your Magazine, and I find myself every way inferior to him in these respects, yet as *truth* needs no *colouring*, with your permission, I hope I will be able clearly to point out the fallacy of his arguments in almost every particular of his reply to my former statement.

To know the relative value of land is very difficult; and any thing that may throw the least light upon that subject, must be reckoned of great importance to the practical agriculturist in every county. But at the time I wrote that essay, the fine estate of Baldoon was about to be valued by gentlemen from other counties, of the greatest agricultural abilities. It was therefore a subject of deep and general importance in this county at that time. In setting a value upon the Baldoon estate, it is but just and natural to suppose that those able valuators would reckon, that a part of these lands would be worth more, if they were managed after a system of alternate fallow, or green and white crops, than in the manner they were formerly carried on. Now, as in this county nothing of the kind had been tried, or, at least, no conclusion could be formed, from any trial that had been made, how a system of that kind would answer, I can see no better or surer ground that those valuators had to go upon, than a well-grounded calculation, or comparative table, with some of those districts where rotations of the above kind had been tried and approved; although Arator, in his introduction to the subject, labours hard to throw an odium upon all calculations of that kind, wishing, I suppose, either to prejudice the reader in favour of what he is about to advance against my former statements, or otherwise condemn them to oblivion as unworthy of notice or regard. But to come more immediately to the point in hand. In the *first* place, I observed that, in this county, farms of 240 acres would require 600l. each to be laid out upon houses, to put them upon an equal footing with similar farms situated in the neighbourhood of Haddington, which, at 7½ per cent., I reckoned at 45l. yearly. But Arator seems to think, that before this supposition be allowed, I must prove that houses are no burden to the Haddington farmer, or that their whole expense is defrayed by the landlord. This appears to me quite foreign to the subject; for if the houses upon farms of the above size, upon an average, be worth 600l. more in the one county than in the other, my point is clearly proved; and this Arator does not deny: nay, the vast sums of money he has expended upon houses upon his own farms, are a direct proof of it: for I cannot suppose that houses are of less value to the farm, merely because they were not put up by the landlord, but by the tenant. And here it may be observed, once for all, that my comparative table was drawn with a view to the general

general ſtate of farms as they are at *preſent* in the two counties; and not what they were *fifty years ago*, or may be *twenty years hence*.

In the *ſecond* place, Arator objects to the ſum of 1020l. on account of the ſuperior condition of farms at entry in the one county above the other. Here he argues in a very inconſiſtent manner: for although he allows that, upon valuing a farm, where both a fallow break and graſs ground were to be left by the outgoing tenant, that one year's rent would be loſt in the three firſt years of the new leaſe; yet he will not allow that there is any difference in the ſtate of farms at entry in the one county more than in the other. If this were the caſe, I perfectly agree with Arator, that I am not only *little aquaint*, but *totally ignorant* of Eaſt-Lothian rural matters; for I always ſuppoſed that farming was in its infancy in Galloway, when compared with Eaſt-Lothian; and that farms were left in a much better ſtate by the outgoing tenant in the one county, than in the other; and, if ſo, landlords in the county need not be overly anxious to introduce Eaſt-Lothian farming here, if the lands are nothing benefited thereby at the end of the leaſe. But I am afraid Arator is little acquainted with the preſent ſtate of farms in this county, otherwiſe he would not have objected to my ſtatement on this head.

In the *third* place, Arator agrees with me, that the climate in Eaſt-Lothian is drier than in Galloway. He alſo allows that the management of clay ſoils is a difficult buſineſs in both diſtricts; and that a greater ſtrength than called for upon light ſoils is abſolutely indiſpenſable. And yet, after all, he will not allow that more ploughs are neceſſary in the one diſtrict than in the other. Why—what is the reaſon that clay ſoils are difficult to manage? Certainly it is owing to their wetneſs, and nothing elſe; and if the climate in this county is wetter than the climate of Eaſt Lothian, it is as clear as any of Euclid's propoſitions, that a greater ſtrength both of men and horſes will be neceſſary to the proper management of clay ſoils in this diſtrict; and not only ſo, but it will be often abſolutely impoſſible to have theſe lands ſo perfectly managed in this county, which will often diminiſh the produce of theſe lands in this diſtrict very materially. Arator appeals to the general practice of the two counties, what number of ploughs are neceſſary upon farms of the above ſize. Now, although the number of ploughs neceſſary to work a farm of clay land perfectly in Eaſt-Lothian, may be eaſily aſcertained in that way,—and at ſome future period that may be known alſo in this diſtrict; yet, at preſent, no proper concluſion can be made from paſt experience.

Again, it is an undeniable fact, that, in Galloway, our drieſt ſeaſons always produce our greateſt crops upon all our clay lands, both

both as to quantity and quality; and that not only wheat, but alſo oats, and even graſs and clover, and crops of all kinds, on lands of this deſcription, turn out badly in a wet ſeaſon. This proves to a certainty, that if our climate were dryer, our crops would be greater. If, as Arator obſerves, oats turn out badly upon clay lands in Eaſt Lothian through the dryneſs of the ſeaſon, it proves that the climate is much dryer in the one county than in the other; for this never happens in Galloway, at leaſt I have never known it to be ſo. But it by no means follows from thence, that the Eaſt Lothian climate is too dry, for I make no doubt but that a wet ſeaſon will be ſtill more detrimental to the different crops upon clay land, even in that county. The following queſtion anſwered, would aſcertain that point at once.—Doth Arator reckon the Eaſt Lothian climate, taking it upon an average of years, too wet or too dry for clay ſoils, every article of produce conſidered? Viewing the climate in this light, I do verily believe he will not pronounce it too dry. And if not, it will appear as evident as the nature of the caſe will admit, that if our clay ſoils enjoyed the Eaſt Lothian, or in other words, a dryer climate, they would produce greater crops, both as to quantity and quality. Whether one ſixth be the real difference, is not ſo eaſily determined. I am of opinion that the difference will be much greater than that upon wheat and barley crops, and leſs upon beans and oats, &c. But, in taking it at one ſixth upon an average, I cannot ſuppoſe I have gone beyond the mark.

Again, I am fully convinced, from what Arator advances, that the great ſums claimed by me, as deductions on account of our grain being almoſt all to ſhip to the Engliſh and Clyde markets, ought not have had a place in my comparative table. I was led into this error by being informed that the internal conſumpt was more than equal to the whole produce of the lands in the neighbourhood of Haddington; but it appears from what Arator advances, that vaſt quantities of grain are exported from that neighbourhood to the London and other markets. But the comparative table itſelf will not be materially affected thereby; for, undoubtedly, the nominal price of grain is from 10 to 30 *per cent.* higher at Haddington than at Wigton, ariſing chiefly on account of the ſuperior quality of Haddington grain. But I cannot ſuppoſe, with Arator, that our grain would bring a ſimilar price, even although it were equal to it in quality, as we are entirely out of reach of the London market, where grain of ſuperior quality has a more decided preference than I believe takes place in any other market in the kingdom. However, although the nominal price of grain at preſent may be nearly as much as I have taken it in my comparative table in favour of Eaſt Lothian; yet, as that difference ap-

pears to ariſe, in a great degree, from the difference in the quality of the grain in the two counties, and not, as I was formerly led to ſuppoſe, from the grain having to be exported from the one county, and not from the other, this may not be the caſe, at ſome time afterwards,—as I have not the leaſt doubt, if our lands were kept in a regular rotation for ſome time, that the quality of the grain would be thereby materially improved, eſpecially if proper care was taken to ſelect the beſt corns for ſeed. On this account, therefore, if I were about to make any alteration on my comparative table, I would take the difference betwixt the nominal prices of grain in the two counties at 15 *per cent.* in place of 30, as formerly ſtated by me. But, on the other hand, I would make the price of wheat at Haddington 8s. 6d. per Wincheſter buſhel, in place of 7s. 6d., as formerly ſtated; and, as to any other part of my former ſtatement, I can ſee no reaſons advanced by Arator why any of them ſhould be altered. After making theſe alterations, the difference in the value of equal clay ſoils in the two counties will be 3l. 2s., in place of 3l. 9s., as formerly ſtated by me.

As to the turnip ſoils, I am ready to admit with Arator, that the climate of Galloway is much better adapted for ſuch than for clays; and I muſt confeſs, that my comparative table, with regard to turnip ſoils, was drawn up haſtily, rather with a view to promote diſcuſſion, than from an idea that it could be ſtrictly juſtified in every particular. But I cannot ſee how turnips can be extenſively raiſed, except they be eat off by ſheep. It would certainly be a very laborious, I had almoſt ſaid impracticable, buſineſs, to have fifty acres of turnips carted into the ſtraw-yard; and would require one half of the horſes, otherwiſe neceſſary upon the farm, to cart them off; and the after crops alſo would be greatly inferior to thoſe where the turnips had been fed off by ſheep.

As to Arator's other remarks upon turnip ſoils, I am ready to admit, that they are judicious and applicable.

Some perſons may be apt to allege, that if there be 3l. 2s. per acre of difference betwixt equal clay ſoils in Galloway and the neighbourhood of Haddington, that the preſent high rents of the low lands of Baldoon will not be got paid. But I am of opinion, that the natural quality of the ſoil of the low lands is ſuperior to almoſt any lands of the kind that are to be met with in Scotland; and if they only enjoyed the Eaſt Lothian climate, I don't know what rent might be paid for them. I am, Sir, yours,

Wigton, March 4th, 1807. A GALLOWAY FARMER.

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[*To shorten this dispute, the above, before going to press, was communicated to* ARATOR, *from whom the following remarks were received, which, we trust, will settle the business.*]

MR CONDUCTOR,

I am obliged to you for a ſight of the Galloway Farmer's reply to the letter inſerted in the November Magazine, (vol. vii. p. 458.); and requeſt your permiſſion to make a few animadverſions on that communication. I ſhall be brief, becauſe the nature and weight of the replication does not call for an elaborate anſwer. Indeed it might have paſſed unnoticed, without ſubjecting the principles formerly illuſtrated to much injury. The laſt word, however, is always agreeable.

In my former letter, it was ſtated that the value of land was an abſtruſe ſubject, and one on which little light could be thrown by arguments and figures. This leading obſervation was offered, becauſe the Galloway Farmer had calculated with fractional preciſion the worth or value of land upon the weſtern and eaſtern coaſts of the iſland, without taking into conſideration that the intrinſic value of the ſoils of each might be materially different. I then queſtioned the principles upon which he proceeded, and differed with him as to the cauſes or reaſons aſſigned in ſupport of his ſeveral calculations. Whether he has or has not invalidated any thing that I ſaid, muſt be left to the determination of your readers; but, in the mean time, I beg leave to illuſtrate my former letter, and to make the following anſwer to this replication.

I maintained, in the *firſt* place, that houſes were equally a burden upon the Haddington as upon the Galloway Farmer; and that if the firſt was better accommodated than the laſt, he had, in nine caſes out of ten, to thank himſelf for the ſuperior accommodation. Now, does the Galloway Farmer controvert this ſtatement by any thing he has ſaid? or does he ſhow that the proprietors of Haddington county are more ſedulous to the comfort and welfare of thoſe below them than the proprietors of his own county? I do not obſerve any thing of this nature in his replication; therefore muſt preſume that the farmers in both diſtricts are ſimilarly circumſtanced. Indeed, were I to reaſon from the articles of roup inſerted in your Magazine, concerning the Baldoon eſtate, I might argue, that Galloway farmers are accommodated on eaſier terms than their Haddington brethren. In theſe articles, Lord Galloway binds and obliges himſelf to build houſes, and to make and repair fences, on being paid five pounds per centum per annum on the outlays, which, to be ſure, is abundantly liberal. Now, what is the Haddington cuſtom? I anſwer at once, that in general caſes, you muſt either do the whole yourſelf, or pay an annual additional rent of ſeven and a half per

centum on the ſums ſo expended. I have known ſix and a quarter per cent. ſtipulated; but when that was done, it was viewed as very moderate. I am quite aware that the Galloway Farmer proceeds upon the idea, that both houſes and fences are brought to perfection in the county of Haddington, and that the tenant, at his entry, has nothing more to do but to ſing the ſixteenth pſalm, and rejoice that he has got a *goodly heritage*. It would no doubt be highly deſirable were farmers to be ſo pleaſantly circumſtanced; but I apprehend that few of them can boaſt of ſuch advantages; I know of none (and I am well acquainted with that county from one end to the other) who can aſſert that they have entered without expenſe; nor do I believe, while improvements are in a progreſſive ſtate, that ſuch an agreeable mode of entry will ever be found practicable. The accommodation which ſuited one generation may be found utterly inadequate for the wants of a ſucceeding one; the truth of which propoſition will be ſupported by every man who has beſtowed attention upon theſe matters, or who reflects upon the diverſified opinions of mankind. This propoſition might be illuſtrated by a reference to the manſes and offices of the clergy which are ſupported by the heritors; theſe conſtantly requiring alterations and repairs at the induction of a new incumbent, and often for no better reaſon than the taſte and diſpoſition of the exiſting incumbent being different from thoſe which regulated his deceaſed predeceſſor.

In the *ſecond* place, I maintained, that the ſum of 10*zl.* as an annual deduction from the worth of a Galloway farm, on account of its bad condition at entry, was moſt improperly ſtated; and I adhere to that aſſertion with increaſed confidence, being firmly convinced that no farm whatever will, at entry, be found in good condition. Your correſpondent affirms that I argued this matter in an inconſiſtent manner. But with all due ſubmiſſion to his ſuperior knowledge, I muſt rejoin, that my argument was perfectly conſiſtent; and that the concluſions drawn are in ſtrict uniſon with my premiſes, though I will not affirm that either had been fathomed by the deepneſs of his diſcernment. In his firſt letter he aſſumed as a datum, that a farmer in Haddington-ſhire, at his entry, had only to ſow, and that a full crop would conſequently be reaped. My anſwer was, in ſubſtance, that ſome previous ſteps were neceſſary, and that in Haddington county, as well as in every other, a few years muſt elapſe before a farmer could bring his land into ſhape, or cauſe it produce crops adequate to the rent; or, more properly ſpeaking, to the land's natural value. In ſupport of this opinion, I gave the reſult of a valuation, in which I had been recently engaged, wherein it appeared that one year's rent out of three would be loſt at the beginning of the leaſe, notwithſtanding

withſtanding that the farm in queſtion had been previouſly ſubjected to covenants much ſtricter than thoſe uſually engroſſed in Haddington leaſes. Now I am at a loſs to perceive any inconſiſtence here, and ſuſpect the Galloway Farmer would be puzzled, were he required to condeſcend upon an inſtance. In fact, he argues from ſuppoſitions, and ſuppoſes this thing and that thing;—but ſurely I am not anſwerable for his ſuppoſitions. He might have ſuppoſed that cinnamon and nutmegs are produced in the county of Haddington; but had he done ſo, any thing that I ſaid would not have been affected by ſuch an extraordinary ſuppoſition. I take things as they are, and argue accordingly.

In the *third* place, I frankly allowed that the climate of Eaſt-Lothian is ſuperior to that of Galloway, and was diſpoſed to go much greater lengths on that point than my antagoniſt thought neceſſary. He claimed ſix and a half per cent. on the value of the grain; but had he called for ten per cent. of allowance for Galloway, I would not have differed with him. In fact, the comparative value of the perfect article at market is the real criterion by which the land of the contraſted counties can be judged. I am not to be told that clay ſoils are difficult to manage, for I know it ſufficiently well; but I apprehend that the ſtrength allowed, namely five ploughs for 144 acres under corn crops, is ſufficiently extenſive in any part of the iſland, providing a ſuitable rotation is adopted, and active management exerciſed. I know nothing about the Wigton-ſhire rotations; but I know very well, that thirty acres of corn land may be wrought by one plough and two horſes in the wetteſt ſeaſon that ever viſited North Britain. In a word, I venture to aſſert, that the diſtrict of Galloway never experienced a wetter autumn and winter than Eaſt Lothian did in 1806, and yet in few years has ſeed grain, at ſpring time, been more expeditiouſly depoſited in the earth than for the current crop.

To the doctrine, that the greateſt crops upon clay ſoils are got in dry ſeaſons, I bow with ſubmiſſion; but here I am obliged to inquire, which of the ſeaſons of the year is meant by your correſpondent? If it be the ſummer quarter, we are at one; though ſurely from this premiſe he does not argue that a greater ſtrength is required for working a farm of clay ſoil. A dry climate is of eminent advantage, both for wheat and barley, while growing,—eſpecially in the months of July and Auguſt: but does your correſpondent know that the latter end of the firſt, and a conſiderable part of the ſecond mentioned month are generally wet; and that, in conſequence, the faireſt hopes of Eaſt-Lothian farmers are often diſappointed? I ſaid, in my former letter, that he ſeemed imperfectly acquainted with Eaſt-Lothian huſbandry; and I muſt now add, that he ſeems equally unacquainted with its climate.

The queſtion put to me, whether I reckon the Eaſt Lothian climate too wet or too dry for clay ſoils, is a curious one: but I ſhall anſwer it generally,—and it can be anſwered by none in any other way. I ſay, that it is too wet in ſome ſeaſons, and rarely too dry in the ſummer quarter of any one year, for wheat and barley. But what does a queſtion of this kind reſolve itſelf into, but merely that, in the one diſtrict, the value of grain is ſuperior to what it is in the other;—a thing I never diſputed, and which, in fact, was conceded at the outſet. Indeed, as already ſaid, my ideas on this head went further than thoſe evidenced by your correſpondent; and, had he confined himſelf to an abatement for climate, I would never have challenged his comparative eſtimate. When I ſaw reaſons, however, aſſigned why the land of Galloway is of leſs value than that of Eaſt-Lothian, which I looked upon as altogether unfounded, it became a duty to lift up my teſtimony againſt them. I entertain a high opinion of Eaſt-Lothian huſbandry; but, ſtill, I would not reinforce this opinion at the expenſe of other diſtricts, nor undervalue the one, merely that the value of the other might be ſwoln beyond the juſt bounds. No perſon whatever will, I believe, rank the climate on the weſtern and eaſtern coaſts of the iſland as equally favourable to the growth of corn crops; ſtill, as the poor man's poverty and the rich man's riches are both generally exaggerated, bad may be called worſe than it actually is,—and, *vice verſa*, what is good may be eſtimated above its real worth. The ſet of the Baldoon eſtate furniſhes evidence that the clay ſoils of Wigton-ſhire cannot be rated as of much leſs value than ſimilar ſoils in other diſtricts. They may be over-rented, to be ſure; but the like remark might be urged againſt the rectitude of every recent tranſaction in the land market; and unleſs we ſuppoſe that the farmers who have entered to that property were influenced by different views than thoſe which guide their brethren in other quarters; the rents then offered muſt be conſidered as agreeable to the fair market value of land at the time, in that diſtrict.

I confeſs myſelf at a loſs how to anſwer what is ſtated in the replication, with regard to the deductions formerly claimed on account of Galloway grain being generally exported to other places; becauſe the author, in this paragraph, exceeds himſelf, and is ſingularly vague and inaccurate in every one of his reaſons or arguments. He admits that deductions ought not to have been made for merchants' profit, freight, inſurance, &c.; (theſe were reckoned at no leſs a ſum than $23\frac{1}{2}$ per cent. on the original amount;) and yet, under this admiſſion, makes no greater alteration on his firſt eſtimate, than the trifling ſum of ſeven ſhillings per acre; though it is palpably evident, that ſo many per cents as he claimed will exceed four times the amount of ſuch a deduction.

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Should we reckon the diſpoſeable produce as only worth ſix pounds per acre, and that is a moderate computation, it is plain that a deduction of 23½ per cent. on that ſum, will amount to one pound eight ſhillings, or thereby; therefore, the inaccuracy of his corrected ſtatement need not be inſiſted on. In fact, the Galloway Farmer ſeems as unacquainted with Eaſt-Lothian as the noble ſecretary who apportioned the number of its volunteers. The latter perſonage ſagaciouſly concluded that Eaſt-Lothian was an inland diſtrict; and the like impreſſion ſeems to have weighed with your correſpondent; otherwiſe, why did he ſuppoſe that the internal conſumpt of the diſtrict was more than equal to its produce. So far from this being the caſe, the limits would not be exceeded were I to ſay that one hundred thouſand bolls of grain are annually ſent, either by land or water, out of the county; and were not this the caſe, how could rents be paid when hardly a ſingle manufacture is carried on within its bounds? But I need not inſiſt upon theſe matters, as it muſt be evident to every perſon that your correſpondent has written upon a ſubject with which he is ſlenderly acquainted.

In his firſt letter, the Galloway Farmer claimed a deduction of 70*l. per annum*, or 1470*l.* altogether, on account of ſerpentine ridges; though now, without amending his comparative table, he ſeems to have departed from the claim, as it is not ſo much as alluded to in the above replication. Serpentine ridges are, to a certain extent, inconvenient, I therefore frankly admitted them as a drawback, at the rate of forty ſhillings, or 480*l.* on the number of acres condeſcended upon; thereby paying his claim with ſomething like ſix ſhillings and ſixpence in the pound, which is a good modern dividend. What I ſtated on that head remaining unanſwered, I am at liberty to preſume that he acquieſces, though it would have been but fair to have ſaid ſo.

For the reaſons then adduced, I muſt adhere to what was mentioned in my laſt, namely, that the real difference of clay ſoil in the neighbourhood of Wigton, with ſimilar ſoil in the neighbourhood, or in the county of Haddington, does not exceed in value the ſum of one pound five ſhillings per Scotch acre. I allow two ſhillings per acre during the whole leaſe, for the expenſe of getting quit of the ſerpentine ridges, which certainly are highly inconvenient to the farmer, and the remainder for the inferiority of grain produced, being fully ten *per cent.* upon the groſs produce, inſtead of ſix and a half *per cent.* as claimed by your correſpondent. Galloway grain will undoubtedly ſell as high at Glaſgow as Eaſt Lothian grain, providing it were equally good; and it may be marketed there at no greater expenſe. That it is not ſo good, I freely admit, therefore have deducted ten *per cent.* on that account. That the quality may be greatly improved by better huſ-

bandry, is indiſputable; but the defectiveneſs of quality occaſioned by bad huſbandry cannot be charged to the ſoil, but muſt fall entirely upon the occupiers. In ſhort, Galloway is better ſituated for ſhipping markets than Eaſt Lothian. The Cumberland ports, and the great town of Liverpool, are within reach; and, to Glaſgow, cargoes may be carried with as much facility as from Eaſt Lothian. The markets on the weſtern coaſt are uniformly higher than the eaſtern ones, as may be learnt from the monthly averages; and it rarely happens, but that the London prices are conſiderably below thoſe of Glaſgow and Liverpool.

It is agreeable to obſerve, that what I ſaid upon turnip ſoils is reliſhed by your correſpondent,—though it is proper he ſhould be acquainted, that I am ten times more intimately connected with the management of heavy ſoils than of light ones. With regard to the conſumption of turnips, I never meant that fifty acres of them were to be conſumed by young cattle, becauſe I know very well, that no farmer in Galloway had ſo many young cattle as would conſume ſuch a quantity of turnips. I am not ſure either, that any Galloway farmer ever raiſed fifty acres of turnips in one ſeaſon. But, be this as it may, turnips may be given to young ſheep, as well as to young cattle; and the butcher market of the diſtrict will provide a vent for a certain number of old cattle and ſheep that may be fed. Even ſhould I hold the Glaſgow market in view, I might not be out of the way. Both cattle and ſheep, are regularly carried from Norfolk to Smithfield market, and the diſtance is greater than betwixt Galloway and Glaſgow. Allow me to add, that if Galloway farmers would direct their attention to raiſe good corn, and to feed fat cattle and ſheep, local circumſtances will not bring the value of the ſoil in that diſtrict lower down in the ſcale than I have condeſcended upon.

I am, yours, &c. ARATOR.

NOTE BY THE CONDUCTOR.

Since the two preceding articles on the value of land in Wigtonſhire, &c. went to preſs, a ſtring of reſolutions, on a ſubject ſomething ſimilar, has appeared in the newſpapers, wherein the laſt paragraph of our Quarterly Report from that county, in the May Number, is ſeverely cenſured. While we diſclaim all reſponſibility to the gentlemen and farmers who are members of the Agricultural Society of the lower diſtrict of Wigtonſhire, reſpect to the public influences us to ſay a few words on the ſubject which lately occupied the ſpecial attention of that Society.

The paragraph of the Report animadverted upon, may be divided into two branches, in one of which, the operations of the Baldoon tenants are ſlightly noticed, and in the other ſome obſervations of a general nature are communicated. Though theſe are neither

important,

important, nor calculated to do good or evil to any one, the Society have been pleaſed to conſider them as hoſtile to the intereſt of the tenants alluded to, never reflecting, that the ſame things have been ſaid a hundred times before, without producing the ſmalleſt diſadvantage to thoſe immediately concerned. In fact, the firſt ſentence of the paragraph (and this ſentence is the only part of the paragraph which relates to the Baldoon tenants) is of an approbatory nature. The tenants are therein declared to 'have made vaſt exertions in ploughing and ſowing,' which exertions they certainly were called by every motive to make; and in the latter part of the ſentence, it is added, that 'moderation in their mode of proceeding ſhould not be expected to anſwer the purpoſe;' the preciſe meaning of which is, that having taken farms at higher rents than their neighbours, more animated management has been carried into execution. This is the light in which we viewed the paſſage when it went to preſs, and though we conſidered our reporter as indulging a little harmleſs levity, yet, for the ſake of variety, (a quality not eaſily introduced into an agricultural report), we allowed the paragraph to paſs without alteration or amendment.

Now, if the paragraph under conſideration was calculated, directly or indirectly, to injure the reſpectable individuals alluded to, what has the ſociety done to counteract that effect, or to benefit thoſe concerned? Why, they have reprinted the paragraph at full length, thereby giving it an additional circulation, and vended by retail what had only been ſold as a wholeſale commodity. They have called the attention of the public to a detached paſſage of a local report, which perhaps, in the firſt inſtance, was noticed by few people, and attached an importance to the paſſage, which, in reality, it did not merit. By acting in this way, the Society have not evidenced much wiſdom and ſagacity, nor has their conduct diſplayed a larger portion of conſiſtency and judgment, though reſpect for its members reſtrains us from inſiſting on theſe matters. We cannot however avoid noticing, that while the Society cenſure us with aſperity for inſerting the paragraph alluded to, they, in the ſame breath, requeſt us to publiſh reſolutions ten times more libellous than any part of the paſſage animadverted upon.

After all, it is highly probable, that regard to the Baldoon tenants was not the ſole cauſe which induced the Society, at this time, to come before the public; for we underſtand, that the latter part of the paragraph was by them viewed as moſt objectionable. Now, the true meaning of this paſſage is preciſely the ſame with that of the adage which Solomon pronounced many years ago, namely, that 'the pitcher goes often to the well, but is broken at laſt;' for the author does no more than infer, that rent having

having reached to a very high pitch, there is great chance of its taking a retrograde courſe,—an idea quite common among farmers at all times. But as the Society are ſo touchy on the value of land, why don't they call our correſpondent the *Galloway Farmer* before them, he having undoubtedly done more to leſſen the value of land in Wigtonſhire than our reporter? Our reporter may be conſidered as only a dealer in ſmall wares, whereas the Galloway Farmer deals upon a great ſcale. The one confines his obſervations to the poſſeſſors of a trifling portion of ground, while the other takes in the whole diſtrict, and, if correct, proves that the worth of land in Wigtonſhire is much leſs than in other diſtricts. With ſubmiſſion, we recommend this matter to the conſideration of Mr THOMAS HANNAY, who bore ſuch an active hand when the reſolutions were formed; and charitably preſume, that through his endeavours, the Galloway Farmer may be traced out, and receive from the Society his merited reward. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Letter from Dr Keith on the Experiments to aſcertain the value of English and Scotch Barley and Bigg, when malted.

SIR,

As I conſider your work as the moſt valuable periodical paper that has appeared in this kingdom on the ſubject of agriculture, I beg leave to ſend you two papers on the ſubject of the experiments for aſcertaining the comparative values of malt made from barley and from Scotch bigg, which were conducted at Edinburgh by Drs Hope, Coventry, and Thomſon. The firſt is a ſhort paper, drawn up for the ſake of thoſe who cannot attend to a tedious diſcuſſion, which I hope you will be able to inſert in your Magazine for Auguſt. The ſecond is much longer, and contains my ſentiments on the ſubject of theſe experiments, in anſwer to a requeſt made to me by the county of Aberdeen, at their general annual meeting at Michaelmas laſt. If you cannot inſert the latter in the Magazine for Auguſt, it can be delayed till November. I am, Sir,

Your moſt obedient humble ſervant, GEO. SKENE KEITH.

Principal Errors or Defects in the late Experiments on different kinds of Malt.

These are of two kinds, *viz.* 1*ſt*, Thoſe for which the conductors are not responsible; and, 2*d*, Thoſe for which they are responsible, whether committed by themſelves, or by the inferior operators under their direction.

First. The errors or defects for which the conductors of these experiments are not responsible.

One

One of these was beyond the power of any man to prevent. It was occasioned by the peculiar season of 1804. The others could easily have been prevented.

1. The barley of England, in 1804, was, in point of quality, considerably below its average value; while the barley of Scotland was much above its usual weight and fineness, (probably 10 *per cent.* better than usual), and while Scotch bigg was in a still higher degree, at least 15 *per cent.*, better than its average from century to century. No man could have prevented this; and no calculations should be founded upon what may never again happen. But,

2. Owing to the improper mode of selecting specimens, where the *London corn factors* were left both to *judge* the quality, and *fix the price* of the barley, and where no small bushel appears to have been used for ascertaining the weight, nor any other method taken to discover the quality of the grain when purchased, the English barley used in these experiments, was not a fair specimen of the barley of England, even in 1804, but was considerably below what could have been obtained from the farmers of Norfolk, and of the other barley-raising counties.

3. Owing to a similar mode of purchasing barley in Scotland from corn merchants instead of farmers, and to there being no barley purchased except in seven counties, where it was excellent, the specimens selected were considerably better than the average of Scotch barley in 1804, as very little barley was bought except in those districts where it is usually of a good quality.

4. Owing to the peculiar mode of purchasing Scotch bigg from the farmers, (only in the straw or rick), and to the particular instructions given to the persons who conducted these purchases, or at least owing to the interpretation which they put on their orders from the Board of Excise, very little bigg of inferior quality was purchased; and some of this, though bought as 3*d* quality, was afterwards rejected.

5. No proper distinction between the qualities of grain was made, either before or at the time of purchasing it. Barley was bought, either as 1*st*, 2*d*, or 3*d* quality, according as the corn factor or corn merchant chose to call it by any of these names, and without any previous examination. Hence, the weightiest barley of England, employed in these experiments (51.937 *per* bushel), was bought as 3*d* quality, while very light barley (only 49.877), is marked as 1*st* English barley. Hence also, the weightiest Scotch barley in the table of raw grain (52.265), is marked as 2*d* quality, while barley nearly three pounds lighter (only 49.312 pounds) is called 1*st* quality. The third is frequently better than the second, and sometimes better than the first. This is a fruitful source of error.—The learned gentlemen

men who conducted these experiments, are not to blame for those errors or defects, which existed previously to the grain being delivered to them; and it is but candid to add, that many of those which follow, were unintentional, or done by the inferior operators, and unknown to the learned gentlemen, till this paper was communicated to them.

Secondly. Errors or defects for which the conductors of the experiments are responsible.

1. No inventory was taken, when the grain was delivered, of the particular quantities received, either by measure corrected by weight, or by weight corrected by measure; and, indeed, nothing appears to have been done to ascertain either the qualities or the quantities of the different kinds, till any one particular kind came to be used. The very first thing that ought to have been done, was to take an account of stock; and to weigh, measure, and arrange the whole, by giving them new names when bought under false denominations; and distributing them into proper classes, before they were taken off the pavement of the warehouse; to number each sack, and record its contents. This was the more necessary, as so little attention had been paid to the discriminating of the qualities when the grain was purchased. And if this had been done at first, every subsequent change could have been marked.

2. An account of the disposal of every quantity should have been taken and published, for shewing the decrease of measure and increase of weight, as well as the produce of every parcel, when it was actually used. The report gives an account of the disposal of only three-fifths of what was purchased. The whole ought to have been stated in the report, however concisely; and the number of unsuccessful experiments would have been known, which would have given more credit to those which were successful. But what is of more consequence, if we may judge from the inaccuracy of several of the calculations which are published, the results would have been materially different.

3. The weights of grain, in the general table of raw grain, do not nearly correspond with the average weights of the counties of which any account appears in the report. English barley is said to be one-tenth of a pound *per* bushel more weighty than Scotch barley, on the average of the *whole kinds*. It is in fact, three-tenths of a pound less. This is four-tenths of an error, or 1 *per cent.* of difference of real value.

4. The weight *per* bushel of grain malted, does not correspond with what of this grain was afterwards brewed, still less with that of the raw grain distilled. Instead of brewing only a part of each quantity, and leaving the rest for distillation; in some

some cases the whole is brewed, and in others very little or none of several parcels of the malted grain is used in brewing.

5. The original weight of grain before it was put into the steep, and its weight after its swimmings were skimmed off, were necessarily different. But when the grain was put through the fanners to prepare it for distillation, and to make it, as nearly as possible, of the same weight with what the same kind of grain was when the light corn or swimmings in the steep were skimmed off, a most unaccountable alteration took place. Both Scotch and English barley became lighter than they were at first; and Scotch bigg not only became heavier than it was originally, but it was dressed by the inferior operators to a high pitch, and became considerably weightier than what the same kind of grain was when its swimmings were taken off. Therefore, either inferior barley was used as raw grain in distillation, or some of the weightiest was kept out after passing through the fanners. And taking into account both the increase of weight and the decrease of measure, the raw grain of bigg used in distilling was at least 8 *per cent.* of more real value, than what was put into the steep for malting; and the English and Scotch barley, which, after lying 6 months, and being put through the fanners, was lighter than at first, must have been 4 *per cent.* worse than what was malted. In short the values of grain used in malting, brewing and distilling, are all different.

6. The average weight of a bushel of malt in the maltings, brewings, distillations of raw grain, and distillations of pure malt, is different in all these cases, and in the last is very considerable. Bigg malt brewed for ale, for example, is 36.492; distilled with raw grain 39.667; and distilled alone 40½ pounds *per* bushel.

7. The proportion of difference in that weight, in every one of the above cases varies considerably, independently of what the malt gained by keeping, and in a way that seems very incorrect and unaccountable.

8. The quantity of grain in a bushel of malt, and the weight *per* bushel of the malt used in brewing, differs very considerably from what is given as the same kind of malt in distilling from raw grain; and still farther from what is given under the same denomination in the distilling of pure malt, where the malt is from 2 to 5 *per cent.* better than what was used with raw grain, and from 5 to 10 *per cent.* better than what was used in brewing.

9. The quantity of grain in a bushel of malt, not only varies in a very irregular manner in the malting process; but the same proportion of grain in a bushel of malt has not been kept in the subsequent

subsequent processes. And as Dr Hope makes no allowance for this, all his calculations of the value of raw grain or of malt are erroneous.

10. The method adopted of calculating averages from unequal numbers in the lists of 1*st*, 2*d*, and 3*d*, qualities, and then dividing the sum of these averages by 3, is extremely inaccurate, and leads to false results; yet it is uniformly adopted in this report. The only accurate method of taking these averages, is to add the whole sums in the lists of 1*st*, 2*d*, and 3*d* qualities, into one general sum, and to divide this by the number of parcels of each kind of grain, which was the subject of the calculation. Owing to the erroneous method of calculating averages, the average weight of raw grain in the 1*st* tables, the average weight *per* bushel of the swimmings, the average weight and values of the malt made, brewed, distilled with raw grain, or distilled alone, are all very incorrect. In one case it is above 13 *per cent.*; a great error in such a report of national experiments. The method there adopted of calculating averages, would have been proper, only if there had been the same number of parcels of each kind, and also the same number under every class or description of quality; and even these, owing to the number of divisions, would have been liable to fractional errors.

There are also a multitude of errors of calculation in the brewing tables; and several of these are of considerable magnitude.

These are mathematical errors or defects, concerning which there is no room for difference of opinion. Besides these, there appear to be some others of a different nature, regarding which the conductors of these experiments may entertain sentiments directly opposite to those of this writer: and yet they are such, as a good mathematician, who was but a tolerable chemist, would have avoided.

1. The malting process appears to have been conducted extremely irregularly. Grain is steeped during all periods from 44 to 119 hours, without any good reason. The best Scotch barley, of 53.093 pounds *per* bushel, does not increase 1 *per cent.* (only $\frac{6}{10}$ *per cent.*) in the malting process. Nay Edinburgh barley of 52.164lib. *per* bushel, is made to decrease $1\frac{4}{10}$ in the 100, or to produce only $98\frac{6}{10}$ of malt from 100 bushels of grain; and Fife barley of 49.744lib., is forced to decrease from 100 of grain to 91.52 of malt, (probably both by overmalting and by excessive drying), while English barley, almost exactly of the same weight, is made to increase $11\frac{1}{10}$ *per cent.* And the worst English barley in the malting tables (only 47.663lib.) is made to increase 6.55 *per cent.*; and even of the worst bigg, one parcel of only $44\frac{1}{10}$lib. *per* bushel, *increases* 5 *per cent.*, and another of nearly $44\frac{1}{2}$lib.

44½lib. *decreases* 5½ *per cent.* These irregularities destroy all confidence in the maltings, and show that the maltster was left to his own caprice very frequently.

2. In the brewings both for ale and spirits, from 5 to 10 *per cent.* more water is in general poured upon the malt from bigg than on the malt from barley; whereas the very reverse should have been done, if both were to be impartially searched, and equally diluted. Hence barley malted yields much less than it ought to have produced, compared with malt from bigg.

3. In brewing for distillation, the mixture of raw grain and malt, which is weightier, less apt to ferment, and less easy to attenuate than pure malt, should have got ⅛ part more water than the other did to dilute it thoroughly. The very reverse was done to barley and malt especially; for the bigg generally got more water, and attenuated better. Hence we have bad fermentations, and a false view of the value of barley.

4. In the brewing processes, too great heats of water appear to be used in 1*st* and 2*d* maskings, by which means the grain and malt of barley, are not searched properly, nor yield so much extract as if the heat had been more moderate at first, and carried very high afterwards; yet this method would search bigg malt better, as the grain is smaller sized, but still it was improper.

5. In attempting to form a rule for ascertaining the quantity of extract which was not decomposed, or of the value of wash which appeared not to be attenuated, (by the simple operation of expelling the spirit and filling up with water to the same height), the conductors of these experiments forgot to make allowances for the mutual penetration of the extract, water, and alcohol, which occupy much less space when mixed, than if placed above each other; and hence, all their reasonings are false, and all their calculations founded in this rule are erroneous, and, in many cases, the error is very considerable.

6. In attempting to prove that equal attenuations of wash of a given strength, produce always the same quantity of spirit, Dr Hope has given us an affirmation in the margin, and two questions in the text, which are all at variance with one another; and in support of his opinion has produced a table, which refutes, by mathematical evidence, the very point which he meant to establish by it, *viz.* that the extract of bigg malt, *cæteris paribus*, was equal to that of barley, and that of inferior grain as far as decomposed, yielded as much spirits as that of the best grain.

7. The attempting to prove the relative qualities of malt, by distilling a mixture of two parts of raw grain to one of malt, was doing injustice to the writer of this paper, whose experiments

ments were made on malt only, and also to the committee of the House of Commons, who ordered the account of his experiments, given in at their desire, to be annexed to their report. And it was also going beyond the orders of the Lords of the Treasury to the Board of Excise, by which they were expressly limited to *malt* only. At the same time it must be observed, that this attempt could not be successful, nor indeed could throw any light whatever on the comparative value of malt; but from the unequal attenuation of raw grain, (in these experiments rendered still more unequal from using disproportioned quantities of water), compared to the more perfect fermentations, and both the greater dilution, and greater attenuations of pure malt, it could give only a false result, founded on an imperfect analogy.

Lastly, All the calculations made with regard to the produce of spirits, are erroneous; from the disproportioned quantities of water, the generally imperfect fermentations, the unequal quantities of grain in a bushel of malt, or of malt and raw grain, the difference in the value of the malt, as well as of the grain used in brewing for ale, compared to that in brewing for raw-grain distillation, or pure malt spirits. If all these things be taken into the account, and properly calculated, the malt from bigg, even in 1804, will be found nearly 25 *per cent.*, instead of 8 or 14 *per cent.*, inferior to that of barley.

FOR THE FARMER'S MAGAZINE.

Letters from a Young Farmer to his Father.—Class III.

July 28.—SINCE my last, a material change of weather has taken place, which occasioned much positive loss in the first instance, and a great deal of additional labour afterwards. It is under such circumstances that the judgment and activity of the farmer comes to be most completely ascertained; because the derangement of his usual plans throws every branch of work out of shape, and causes a resort to measures of expediency or of a temporary nature. In such a situation Mr Jamieson shines conspicuously. His mind seems stored with resources for every emergency, and the difficulty of the case appears to give increased strength to his natural powers. He shapes his conduct to the circumstances under which he is placed, constantly preserving the greatest order and regularity.

Last week a violent and continued rain for twenty-four hours occurred, which, to a certain extent, floated the fallow field, wetted the hay ricks, stopped the thinning and cleaning of turnips, and lodged at least one half of the corn crops on the farm. With such

ſuch a number of people, many farmers would have been thrown into utter confuſion, or at leaſt one half of thoſe below them would have remained idle, while others would not have been much more profitably employed. Not ſo with Mr Jamieſon; for the rainy day was as throng a one as ever I ſaw ſince I came here. The ſeveral inventories were examined, and deficiencies noted down with the greateſt accuracy. Two pair of fanners were ſet to work in dreſſing of corn. The loſts were ſweeped, duſted and cleaned; in ſhort every one was ſeduloufly employed. When the rain ceaſed, my whole *corps* were inſtantly deſpatched to the fallow and turnip fields, and expreſs orders were given me not to ſuffer a drop of water to ſtand on any of them; of courſe I had not a dry foot while in the field, but fortunately was not the worſe of this treatment, having taken care to ſhift regularly after working hours. When thus employed, Elliot and his ploughmen were buſy in removing dung from the farm-yard, and middening it in a regular manner on an adjoining field of graſs-land, where it is to be uſed next winter; and as two hundred bolls of wheat had been lately ſold, Mr Jamieſon took this opportunity of delivering it to the merchant. Even Howard and his herds were not idle; for, as ſeveral markets were held at the time, he and they were ſeldom at home at this troubleſome period. The thraſhing machine was likewiſe ſo buſily employed after the weather ſettled that our ſtack-yard has become nearly empty.

Every thing ſeems now to be reſtored to order except the hay, which will give us a little trouble before it can be ſafely ſtacked. Mr Jamieſon ſays it has received damage which cannot be cured, and that I will ſoon ſee the extent of injury done to hay, by a fall of rain, while in the cock. He adds, that it is much leſs hurt by wetneſs during the early ſtages of the winning proceſs than when in the cock; becauſe the natural fermentation which neceſſarily takes place is then reinforced by artificial auxiliaries, conſequently that a degree of putridity enſues, inevitably injurious to the article. Fairbairn has returned to the turnip field; and the young plants being all thinned and ſet out, he is going over them a ſecond time, correcting former errors and deſtroying every weed that has recently vegetated.

Auguſt 4th.—The hay is now ſafely ſtacked, though a good deal of work was required before we got it into ſuch a condition as to ſatisfy Mr Jamieſon. Three days ago, when fine ſunny weather and gentle wind prevailed, our united ſtrength was employed to take down the cocks and expoſe the wet parts to their beneficial influence; after which the whole was recocked, great care being taken to mix the external and internal parts together, ſo as the

quality might be equal, and any moiſture remaining in the damaged parts abſorbed by what was in good condition. It ſtood for the night in theſe new made cocks, but next day promiſing good weather the carts were ſet to work about nine o'clock, and in that and the following day the whole was got into the ſtack-yard. It is put up in two ſtacks, each containing about five thouſand Scotch ſtones, or fifty-five Engliſh loads. The charge of ſuperintending the loading of the carts was committed to me, and I had full proofs of the truth of Mr Jamieſon's previous opinion reſpecting the damage; thoſe parts of the cock that were wetted, though made perfectly dry, breaking with the ſlighteſt touch, and appearing altogether devoid of ſubſtance. Mr Jamieſon ſays the damage will not be ſo apparent after the ſtack-ſweat has enſued, though perhaps he means that the partial damage, being thus transferred to the whole ſtack, will not be ſo diſcernible as when confined to a certain portion of it. The ſtacks are to be immediately combed down, completely covered with ſtraw and hard roped, ſo as they may be ſecured from the ſtorms of winter. I obſerved that where clover was moſt plentiful, the hay had ſuffered moſt; and, *vice verſa*, that the cocks containing the greateſt quantity of rye-graſs were leaſt damaged. Had the cock been of clean clover, I am almoſt ſure that it would have been fit only for the dunghill.

Auguſt 10*th*.—The fallow is now dunging, and four heads of carts, or ſixteen altogether, are employed at that buſineſs. Each head requires two men to fill, and one to pull out the dung from the cart, while the carter drives the horſes regularly forward; and one man and three women ſpread the heaps laid down by each head of carts, ſo that thirty-two men and twelve women are thus employed beſides the overſeers. My poſt is at the dunghill: Elliot looks after the carts in the field, and ſees that the dung is properly drawn out, while Fairbairn manages the ſpreaders. We juſt take out ſixty loads a-day per head, or two hundred and forty loads altogether. Fifteen of thoſe loads, or thereby, are applied to an acre Scotch meaſure; and as each load, from trial, is found to contain a trifle more than one yard and a half of cubic meaſure, you may have a tolerable notion reſpecting the extent of the application. In this way we dung about ſixteen acres per day, ſo that in little more than ſix days the whole hundred acres of fallow will be gone over. Mr Jamieſon is very exact about the ſpreading, aſſerting that the benefit of the application depends in a great meaſure upon the accuracy with which this proceſs is executed; or, more plainly ſpeaking, that fifteen loads, well ſpread, are of as much uſe as twenty loads imperfectly ſeparated and divided.

The turnip fields are now completely finiſhed off, and preſent

a notable proſpect to the amateurs of good huſbandry, having very few blanks, and containing ſcarcely a ſingle weed. The ruta baga ſeemed ſhy of growing for a long time; and, though now more forward, ſtill preſents more naked ſoil than the yellow and white turnip. The horſe, or yam potatoes, ſhow a ſtrong foliage, and perhaps will ultimately be found to return as much root as the ruta baga. All our corn fields are looking well, and ſome of them are holding out ſigns for the ſickle, eſpecially the early oats and firſt ſown barley. Mr Jamieſon has intimated that I am to aſſiſt in the field; and given me warning, that, to overſee there, is a poſt of no little trouble. He has gone the length of declaring, that the corn farmer muſt be a ſlave during the harveſt quarter if he wiſhes his affairs rightly managed; ſo I eaſily underſtand, if the maſter is a ſlave, that his deputies cannot be characterized as filling a much higher ſtation. I ſhall, however, endeavour to do my duty, truſting that the after advantage will compenſate the expenſe at which it muſt be gained. Every principle connected with honour and intereſt call for exertion on my ſide,—eſpecially as Mr Jamieſon has never ceaſed to treat me with urbanity, and more like a ſon than one ſent to learn huſbandry under his inſpection and direction.

Auguſt 20th.—Harveſt has partially commenced, though, not having as yet drawn out our whole ſtrength, Fairbairn has only been employed in the management. Next week that important branch of rural economy will be undertaken in earneſt, when Howard and I are to be called into action. Elliot is reſerved for his horſemen, who, I underſtand, are rarely taken to the field unleſs there is a deficiency of hands. At this time he is throng ploughing down the dung put on the fallow field, which works in a capital ſtyle; and on this furrow it is meant to ſow the wheat ſeed about the end of September, providing a freſh growth of weeds does not appear before that period. The ſtack-yard was lately emptied and cleared for the new crop. My ſquad are making ſtraw ropes for tying down the thatch uſed in covering the ſtacks, and every thing is arranging as faſt as poſſible, ſo as interruptions may be avoided in the great work before us.

September 2.—The past week has been a busy one; and I seize upon a leisure hour, allowed by a heavy shower falling, to acquaint you of our proceedings. On Monday morning, our forces were mustered for harvest work, and were divided into twelve bands of twelve shearers, and two bandsters each, four of which were committed to the charge of Fairbairn, the like number to me, and the remainder to Howard our head shepherd. The ranking or sorting of the people was done with expedition by Mr Jamieson, who seems quite up to a matter of that nature; and

though half an hour or thereby might be lost before the ranking was completed, yet all that hurry and confusion which, without it, would inevitably have ensued, were altogether kept clear of, and the whole regiment entered to work at once upon a horn being sounded by Fairbairn, who is first in command below Mr Jamieson. The arrangement was made in this manner.—Mr Jamieson having ascertained his numbers, selected twelve of those he considered to be the best shearers, and provided them with two able bandsters for tying and stooking the corn; ordered Fairbairn off with these, and to place them on the left or open side of the field, four shearers upon each ridge, with their bandsters behind them. The second, third and fourth bands followed in their course, a ticket being given to each bandster mentioning the band to which he belonged. When the fifth band was formed, I marched at their head, and placed them on their respective ridges, and so on, as the sixth, seventh and eighth band arrived. Howard came with the ninth, and arranged them in like way, and Mr Jamieson followed with the rear guard. After riding across the field, and being satisfied that all were rightly arranged, he halted in the centre of Fairbairn's bands; and calling *attention*, he stated, in a few words, that these people were committed to his management, and that full power was delegated to him to do every thing which, as a master, he could do himself; that it was his desire to have the corn clean and low cut; and that while sufficient time was allowed to execute the work, idleness was on no account to be permitted. He then came to my station, and repeated these orders, and concluded with the same in the centre of Howard's division. After this, upon a sign being given, Fairbairn sounded his horn, and immediately the whole body fell to work. The total number were 144 shearers, and 24 bandsters. Three fourths of the former are women, who, in fact, are our neatest cutters. The corn of each band is brought into the middle ridge, and stooked there; a measure which Mr Jamieson says forwards the loading of the carts considerably. Indeed, independent of this consideration, the less compass that corn can, in the first instance, be put into, so much the more will the stubble be kept clean. Every bandster is directed to draw the bottoms of the sheaves, and to gather up any heads which drop out when he is tying them; so that the quantity left is very trifling.

We had a good deal of drilling the first day, and not a few were dismissed the service as unqualified. These were constantly replaced from a supplementary corps which remained at home, and, before night, our discipline was tolerably perfect. Mr Jamieson, who commanded in chief, when he noticed any one not working to his mind, always addressed such in a calm but steady manner;

manner; explained how he wished his work performed; and requested, if they were incapable of doing what he required, that they would give up without further trouble. About a dozen left us in the course of the first day, who were always paid for the time they had wrought, but no more. The hours here are from sun to sun, with an hour for breakfast, and the like time for dinner. Twenty minutes rest are also allowed, both in forenoon and afternoon. The victuals are brought to the field in three carts, one for each division; and the bandsters of the different bands act as distributors, after the portions are measured out or set apart for each band by the person who drives the cart. The breakfast consists of oat-meal pottage and milk; at dinner, bread and beer are given; and for supper, the like allowance as at breakfast. Fairbairn thinks that it has taken a day of six shearers to cut an acre of wheat; and if so, twenty-five acres have been cut each day. I suppose he is not far from the mark; for we have worked four days and a half, and done little more than cut down the fallow break of one hundred acres. The field presents a fine sight, as it is wholly in stooks of twelve standing sheaves, with two for hoodings or covering the top. A man goes regularly through the field to set up such sheaves as may have fallen down; but should the weather prove dry, it will be carted to the stack-yard in a day or two. The oats and barley cut last week, under Fairbairn's inspection, will also then be ready. The barley lay untied for three days, which was of great benefit in the winning of it. When tied up, it seemed perfectly dry; but Mr Jamieson says he is always apprehensive of barley heating in the stack, as the softness of the straw allows a degree of compression apt to be followed by a heat dangerous to the grain. I understand it is customary with him to examine every field before the carts are sent to bring any home; and that he is particularly careful to carry none till completely winned. Indeed, when stacks so large as those I saw last year are made, the greatest attention must be necessary, otherwise heating, particularly of barley and beans, could not be avoided. This attention is too often disregarded, many people thinking they ought always to carry when their neighbours are so employed, without reflecting that the winning process is regulated, not only by the ripeness and cleanness of the crop when cut down, but also by situation and size of sheaves. A small sheaf wins in half the time that is called for by a large one, and dries much faster after being completely wetted. All these circumstances should be considered by the farmer before he carries; and on no account whatever should a previous personal examination be omitted. To spoil corn in the yard is a most disgraceful affair to the farmer; though, disgrace-

ful as it is, perhaps it happens oftener than is known. Mr Jamieson, however, assures me, that it is now much less frequent in the country than formerly, when the crops were fouler in consequence of the imperfect rotations then practised; also, that the size of sheaves is of late greatly diminished, which permits the winning process to go more speedily and equally forward.

Elliot and his ploughs are seed-furrowing the fallow field, and will be well through with it by the time that the leading of corn commences. The ridge is neatly gathered up, great care being used not to raise it too high in the middle. The horses are supported on green tares, which are in full pod, and appear to be nourishing food. Mr Jamieson says, no kind of food is better in dry weather, especially if free from rottenness at the root. They are all tied up in bunches of the like size as those of clover; only, I observe, that each horse gets three per day, instead of two of clover; owing, I presume, to the latter being generally more stuffing in the stomach, or, in other words, not so watery and digestible.

September 10.—Our field of shearers was this week augmented by four fresh bands, or 48 additional shearers, who were put under the direction of one of my veterans, often employed in former times when extra hands were brought to the field; so we now cut down a great breadth daily, though the like care and attention are bestowed as at the outset. To save time and avoid confusion, each grieve or steward cuts out and enters the four bands or twelve ridges entrusted to him; and I am now so well acquainted with my troops, that I can place all of them in their proper station, without the smallest difficulty. As we pay weekly such of our hands as leave us on Saturday, a slight drilling becomes necessary on the Monday morning. We go on very smoothly, and keep regular hours. Elliot rings the bell half an hour before sun-rise to prepare; and again, at the first peep of that luminary, when all must march without further ceremony. We have had a few wet, or rather dewy mornings; but, as it was dry above head, Mr Jamieson, at those times, ordered us to proceed with the work, and to leave the sheaves unbound, or in the state technically called *broad-band*. A detachment was always selected in the course of the day, or when the corn was sufficiently dry, for tying up this broad-band corn; and Howard generally attended those so employed, Fairbairn and I taking charge conjunctly in his absence. Mr Jamieson has been less with us this week than last one, and more with Elliot, who was busily engaged in driving home corn. Three heads of carts, four in each, have driven for several days, and a considerable number of tall, well-built stacks, have been put up, while a set of hands has been employed since the first day in covering them, which operation is here executed very neatly in the dam-

dam-board or cross-roping way. About five acres of wheat were thrashed last week, so as good fresh straw might be got for covering;—our summer thrashed straw being too much broken by the machine for resisting rain. This new straw was carefully drawn under Elliot's inspection, and makes excellent thatch. The wheat thrashed has been laid thin on the granary floor, and orders given to turn it daily, till it comes into a keepable state. Being constantly in the field, I have had slight opportunity of personally witnessing the building of the stacks, or the management exercised; but I learn, that a man stands on the stack, and forks the sheaves to the builder, till the stack gets tolerably high, when a kind of opening is left for him to stand, and two stack headers, as they are called, become necessary. The stacks, to be sure, are of great height, and require extra help to complete them; otherwise, I am confident Mr Jamieson, who is perfectly up to every thing of that nature, would not give such assistance.

September 19.—A good deal of rain has fallen this week, which retarded cutting, and stopped carrying altogether. The first object was to keep all the cut corn a-foot, and to complete the covering of what was carried. Respecting these matters, Mr Jamieson is particularly careful. When the rains ceased, we cut oats of the late varieties, which were all gaited; in other words, the sheaves were set up single, with bands loose around them, and pulled near to the top, attention being paid to draw loose heads from the bottom, so as sprouting might be prevented. The same number of hands have been employed as last week; and, should we be favoured with good weather, the cutting process will likely be finished in eight or ten days. Elliot has completed seed-furrowing the fallow break, and is now entered upon the wheat stubbles, though, as the weather seems now settled, he will return to the work of carrying with all despatch. Twenty stacks of wheat, oats and barley, are put up, all of equal size, and better built than any I have hitherto observed.

September 28.—Shearing is now over here, though, as part of the beans are still to tie, and a good deal of barley and oats to be carried, we will be very busy for a week or two. All the wheat is stacked; what was sown in spring after turnips, is inferior in bulk to the autumn and winter fields, and I also thought it lighter upon the hand. The grain, however, is good, being well harvested, and will prove of greater value than the barley sown upon the same field; which reminded me of the prediction offered by Elliot at seed-time, as mentioned in a former letter. The barley after beans is excellent, and, according to my views, may be 20 *per cent.* in extent of measure, above that on the turnip field, though I must acknowledge that the latter is of superior quality, and worth more to the manufacturer.

October 12.—Harvest is now finished with us, the whole crop being safely deposited in the yard. I mentioned, in a former letter, that nine hundred acres of the different kinds of grain were sown upon this farm, the produce whereof, except what was thrashed from the field, is secured or put up in ninety-six large stacks, all of them nearly of equal size, and affording a notable sight to the beholder, if he is an amateur of rural science. The whole are completely covered for the winter, a measure which engages Mr Jamieson's notice in a particular manner; he alleging, that a slovenly managed stack-yard furnishes sure proof, that every other branch of farm management is carelessly conducted. The first built stacks have all been tied down a second time, and I understand that a repetition of this operation is continued till the stacks are fully compressed, when it becomes unnecessary, unless a breach is made by a storm of wind, which is immediately repaired. The business of a farmer has been often supposed to be one within the reach of every blockhead; but I am more and more convinced, that, to carry it on properly, a wise head is not only required, but also a steady hand in the administration of the several duties which appertain to the occupation.

The fallow field was last week sown with wheat, at the rate of ten pecks per Scotch acre; and the seed was carefully pickled or moistened with urine, exactly in the like way as done with what was sown in the spring. There was not a blacked or smutted head of wheat to be seen of last crop, which almost satisfies me that pickling is a radical cure or preventive for that abominable disorder. I remember one day before harvest, when some gentlemen from a distant part of the country were on a visit to Mr Jamieson, that, one of them having expatiated, at considerable length, concerning their district being exposed to smut from a particularity of soil, Mr Jamieson took him up, and offered to wager five guineas, that a single smutted head would not be got amongst his fields.—Done, replies the gentleman; for I never saw a wheat field in my life but what was less or more smutted. The gentleman then proceeded to examine the field with the greatest attention; but, after an examination of several hours, was obliged to declare, that the soil of Mr Jamieson's farm certainly differed from that of every one he had hitherto known, otherwise it could not have escaped that baneful malady. No, says Mr Jamieson; my soil is the same with other people's; but perhaps greater exertion is bestowed to avoid an evil, which assuredly is too prevalent, and which proceeds entirely from negligence and inattention.

The winter stock of cattle and sheep is now brought home, Howard having been at several markets to procure them. One hundred head of cattle are provided for the straw yards, and these are presently ranging the stubbles. Howard tells me, they will not

be

be put upon straw so long as the weather continues dry, and that a few turnips will be given them after Candlemass, to bring their blood into good order before the grass season arrives. Twenty score of ewes are also provided; and this branch of stock is considered by Mr Jamieson as highly profitable, though he acknowleges that, without cattle, he could not convert his straw into dung. About forty fine oxen, purchased at the summer markets, and grazed since their arrival on the pasture fields, are intended to be fed at the stake on turnips; but, as these matters are altogether in Howard's department, I can only speak of them in a transient manner.

Last evening Mr Jamieson gave an entertainment to his servants of every description, on account of the finishing of harvest. He was pleased to take the head servants to the parlour, with his own family, which certainly was paying us due attention; but, after supper was over, he desired us to follow him to the large mill barn, where the other servants were feasted; and, taking a glass in his hand, when we arrived there, desiring us to do the same, he addressed the numerous assembled body in the following terms. 'My lads, I drink health and happiness to each of you, and to your several wives and families.—May Providence bless you all—may you be spared for many harvests, and enabled to perform your respective duties with the like fidelity as uniformly displayed in the one, the conclusion of which we are now solemnizing.'

In this kind and benevolent manner does this good man constantly behave to those below him, thereby attaching them to his interest more effectually than can be accomplished by the hard or austere master. Such may procure obedience when present; but the moment that his back is turned, the ties of duty are instantly relaxed. The study of human nature is a science followed by few people; but I am convinced that no branch of knowledge ought to be cultivated with more sedulity. Without some degree of perfection in this science, none can act aright in their passage through life,—none can sufficiently discharge the duties which appertain to their respective stations,—and none can enjoy true felicity, or possess real contentment.

(To be continued.)

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Letter from Sir George MacKenzie, Bart. on the Distilleries of the Lowlands and Highlands.

SIR,

I AM sorry that we have a farmer among us, who seems to delight in an opportunity of exposing our faults. Fortunately, the letter in your last Number, commenting on the Ross-shire resolutions,

solutions, betrays so much ignorance of the subject, that we heritors need not be much alarmed for the consequences of his ill-judged attempt to show his superiority in knowledge over all the wise heads of the county. I am not at all disposed to enter into war with a person like him; but, in case a battle should ensue, I beg leave to form a few outworks. I will then have no occasion to fight, until my enemy drives me from my first redoubt; which I now proceed to raise.

Comparative Statement of the Duties laid on Stills in the Highlands and Lowlands; with an Estimate of Profits likely to be derived from each.

Lowland Still of 40 *Gallons Contents.*

Strength of wash, 100 gallons to produce 16 gallons of spirits—Quantity of spirits allowed to be distilled under one license, 81,000 gallons—Quantity of wash 506,200 gallons.

Duty on wash, including war duty -	L. 10,545	0	0
Duty on spirits do. - - -	4,050	0	0
Duty on still do. - - -	6,480	0	0
Duty on malt uncertain, from its being sometimes evaded; but say, for malt duty, and expenses of every kind, during one license - -	11,425	0	0
	L. 32,500	0	0
81,000 gallons of spirits, at 10s. - -	40,500	0	0
Profit - - -	8,000	0	0

—which, if the allowance for malt duty and expenses be thought too low, will bear a further reduction, and still leave a handsome profit.

Highland Still of 40 *Gallons.*

Strength of wash, 100 gallons to produce only 10 gallons of spirits—Quantity of spirits allowed to be distilled, 3000 gallons under one license—Quantity of wash, 30,000 gallons.

Duty on wash, including war duty	L. 87	10	0		
Duty on spirits * do. -	450	0	0		
Duty on still do. -	400	0	0		
Malt duty and expenses -	600	0	0		
				L. 1537	10	0
3000 gallons of spirits at 10s. - - -				1500	0	0
Loss to the fair trader - -				L. 37	10	0

In the above calculation, fractions are not attended to. The real

* This is equal to a spirit duty of 3s. per gallon, and certainly a mistake. The gentleman who follows, asserts that the duty is only 6d. per gallon. CONDUCTOR.

real loſs to the fair trader in the Highlands is much greater than here ſtated, when the malt-duty is not evaded, and when proper buildings are erected. The profit which is made by ſelling grains, or feeding cattle with them, is not ſtated againſt the Lowland diſtiller. In the Highlands, little if any profit can be made in that way. The above is a haſty calculation;—but I challenge any one to lay the act 46. Geo. III. cap. 102. before him, and make a fair calculation and a fair ſtatement of expenſes, and to maintain that we are miſtaken. As to what your correſpondent ſays of the ſtate of Roſs-ſhire and its inhabitants, moſt of it, if not all, can be proved to be falſe. But I wiſh firſt to repel the principal attack. I have ſtated the price of ſpirits at 10s. per gallon, at random. The price of Lowland ſpirits in London, while I was there laſt winter, was from 11s. to 11s. 6d. The duty annually paid in London by one houſe for Scotch ſpirits, exceeds half a million Sterling. The two caſes are ſtated, in my opinion, fairly. The expenſes of the Lowland diſtiller are ſtated high, and thoſe of the other low; and the ſtatement of expenſes is the only point in which any alteration can be made. The price of ſpirits is the ſame in both caſes; and therefore it matters not whether it be too high or too low. But in caſe your correſpondent chuſes to go to minute calculation, and to convert the price of our gallon into the Engliſh, and may not have acceſs to tables, I may mention that 1 Scotch gallon = 3.581091 Engliſh. I believe I am not far miſtaken when I ſay that 30s. per Scotch gallon would be got in the Highlands for whiſky of the legal ſtrength. I ſhall expect a reply to this in the November Number; and hope the Farmer will be candid enough to acknowledge any miſtake that he may diſcover. He ſeems to think much of himſelf, and very little of poor Highland lairds. I wiſh him much ſatisfaction in his own conceit; and am, Sir, your moſt obedient ſervant, G. S. MACKENZIE.

[Not being acquainted either with diſtilling, or the laws by which it is regulated, we ſubmitted the above paper to a reſpectable friend, intimately converſant with theſe matters, who has obligingly favoured us with the following remarks, which, as in duty bound, we lay before our readers.]

The following ſtatements reſpecting the duties payable by the Lowland and Highland diſtillers, will ſhow the errors which Sir George Mackenzie, Baronet, has fallen into when treating on that ſubject.

Duties payable in the Lowlands and Highlands of Scotland on a Still of 40 Gallons content.

In the Lowlands—

Licenſe, 108l. permanent; 54l. war - -	L. 6,480	0	0
Carry over	L. 6,480	0	0

Brought over	L. 6,480	0	0
Spirits 81,000 gallons, at the rate of 2025 gallons for each gallon still content; 8d. permanent; 4d. war - - -	4,050	0	0
Wash 490,909 gallons, equal to 16½ gallons of spirits for every 100 gallons of wash; 3½d. permanent; 1½d. war -	10,227	5	5
Equal to 5s. 1½d. *per* gallon	L. 20,757	5	5

In the Highlands.

License, 6l. 13s. 4d. permanent; 3l. 6s. 8d. war	L. 400	0	0
Spirits 3000, or 75 gallons for every gallon still content; 4d. permanent; 2d. war	75	0	0
Wash 30,000, equal to 10 gallons of spirits for every 100 gallons of wash; 1d. permanent; ½d. war - - - - - -	187	10	0
Equal to 4s. 5d. *per* gallon	L. 662	10	0

However great the error may be which Sir George Mackenzie has fallen into in calculating the duties, they are not the only ones he has committed. Labour, for instance, can be had cheaper in the Highlands than in the Lowlands. Grain, whatever difference of opinion may exist about quality, can generally be bought at a proportionable rate as to real value, in both districts; and for the want of coal, an adequate compensation is given by Government, in requiring (but not restricting) only 75 gallons spirits for each gallon of still-room in the Highlands, (which can be accomplished easily with any sort of fuel); while the Lowland distillers *must* produce, or be charged with, 2025 gallons spirits for every gallon of still-room. Besides, the grains or offal of several distillers within the Highland line, are sold at the same rate as in the Lowlands; and to the one they are almost as valuable as to the other, if properly applied. With these advantages, the cost of spirits (exclusive of duties) cannot be estimated more in the Highlands than in the Lowlands,—nor should it be taken at so much; but, rating it at the same, the balance will be widely different from what it appears in Sir George Mackenzie's statement.

The duty on the Lowland still, &c. -	L. 20,757	5	5
Sir George Mackenzie estimates 3000 gallons of spirits made in the Highlands to cost 600*l.*, therefore, at the same rate, 81000 in the Lowlands will cost - - - - - -	16,200	0	0
Carry over	L. 36,957	5	5

Brought over	L. 36,937	5	5
In place of which, Sir George makes the 81000 gallons cost only (including duty) - -	32,500	0	0
Difference - - -	L. 4,457	5	5
The duty on the Highland still is - -	L. 662	10	0
Cost of 3000 gallons spirits admitted - -	600	0	0
	L. 1,262	10	0

From this it appears, in place of the Lowland distiller having an advantage equal to nearly 30 *per cent.* over the Highland distiller, that he pays 16 *per cent.* more duty, and is, even upon Sir George's own principle, eight and four tenths *per cent.* worse; and if the advantages in favour of the Highland distiller, resulting from the law, are taken into view, they will appear (*as they really are*) very considerable; he neither being called upon to work with rapidity, nor to make strong worts, while the Lowland distiller is necessitated to do both, at a most enormous expense on the one hand, and an almost incalculable loss of grain on the other. In fact, these losses cannot be computed at less than 10 *per cent.* against the Lowland distiller, making his situation eighteen and four tenths *per cent.*, or nearly one fifth, worse than that of the Highland distiller.

Whatever may be the situation of the Ross-shire tenantry, it seems evident, that, until they are enabled to live by their farms, and until the different statutes for preventing smuggling are enforced by the Justices of the Peace, the situation of the tenantry can neither be ameliorated, nor the baneful practice of smuggling effectually prevented. It appears also certain, that agriculture must suffer severely by the attention and labour of the peasantry being drawn from it to carry on this nefarious business, often destructive to themselves, and always hurtful to the fair trader and to the public.

[With pleasure we insert the following letter from Mr Braidwood, Manager of the Caledonian Insurance Company, because it relates to a subject of primary importance to every farmer; and reflects much honour on that opulent and liberal minded public body. The scheme devised by the Company for continuing the policies issued for insuring, at short periods, that portion of the farmer's stock contained in the stack-yard, is so accurately described by Mr Braidwood, that it is unnecessary for us to say one word in its favour, further than recommending it to the attention of our readers.]

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

AN advertisement by the Caledonian Insurance Company, relating

lating to a new method of insuring farm-stock against the risk of fire, for a period less than twelve months, will accompany your Magazine to be published in August. The object in view being congenial to the design of your work, I shall make no apology for asking your permission to give some further explanation of the plan to your numerous readers.

It has long been the practice of fire-insurance companies to issue *short-date policies* for farm stock, ships, articles of commerce, &c.; and the plan now submitted to your consideration, does not claim the merit of introducing that improvement. In all cases where such insurances are only *occasionally* required, no better means could have been devised for the security of the parties concerned. But something more was wanting for the accommodation of farmers and others, who have always on hand an extra stock *during the same period of each succeeding year*. They were put to some inconvenience by the necessity of applying for a new policy every year; and when they neglected it, perhaps only for a few days, if an accident happened, their property was uncovered, and they could have no redress.

By the plan now proposed, a farmer's extra stock is insured for six months, or any number of months that may be required; and never ceases to be covered during the same specified period, while he pays the premium and duty, precisely in the same manner as his dwelling-house, furniture, offices, and perpetual stock, remain always insured by an annual policy. The short-date policy, I shall suppose, is for six months, from Oct. 1st, 1807, to April 1st, 1808. Well; the insurance on that part of the farmer's stock ceases on the evening of the first day of April. But by the terms of the policy, and without any further transaction on his part, or on that of the insurers, it commences again on the first day of Oct. 1808, and before he has actually paid the premium and duty for the second year; fifteen days being allowed for that purpose, agreeably to the universal practice of fire-insurance companies in relation to annual policies. Nor is it possible that the person insured can lose the benefit of the policy covering his extra stock, by merely *forgetting* to pay the premium and duty;—because such payment will be demanded;—and if a delay of fifteen days should take place, he will receive a printed or written intimation, warning him of his danger. It must not, however, be understood, that fire-insurance companies are *obliged* to give such intimations;—their own interest is a sufficient motive to secure the continuance of that practice.

I am happy in being able to announce to you a plan, which appears to me calculated to suit the convenience, and to secure the property, of a class of our fellow subjects, so respectable, and so useful to the community at large, as THE FARMERS OF SCOTLAND;

LAND; and that the proposal originates with THE CALEDONIAN INSURANCE COMPANY. I am respectfully, Sir,

Your most obedient servant,

WILLIAM BRAIDWOOD.

Caledonian Fire-Office, Edinburgh, 23d July 1807.

LITERARY INTELLIGENCE.

THE following works, lately published in Edinburgh, were meant to be reviewed in this Number, had we not been prevented by an extraordinary pressure of original communications. We therefore only notice them in a cursory way, though free to say, that the merits of each entitle them to a more particular examination.

1. The first volume of *Caledonia*, or an Account Historical and Topographic of North Britain, by George Chalmers Esq. This is a work highly interesting both to the moralist and the economist, because, on the one hand, it traces society from the rudest state of barbarism to that of polished civilization, while, on the other hand, it develops the gradual progress of improvement from the period when Scotland was little better than a wilderness, containing only wild beasts, and still wilder men, to the time when it became cultivated with almost garden-like perfection. Few men are better qualified than Mr Chalmers for elucidating these matters, or executing the task undertaken. He possesses a steady judgment, not to be biassed by the highest authorities which have gone before him, and is endued with an unwearied sedulity to ascertain facts which seems to be increased in direct proportion with the maze that encompasses the subject he has undertaken to investigate. In a word, we have received so much pleasure from the perusal of this volume, that we anxiously look forward to the succeeding ones, as a source of mental gratification and delight. When finished, the work will be an honour to Scotland; because the history of any country is rarely described with so much precision as what is displayed in the present performance.

2. *The Code of Health and Longevity*, in four volumes octavo, by Sir John Sinclair, Bart. Our predilection for Sir John, and every thing which proceeds from his pen, is so well known, that we are diffident of offering an opinion on these interesting volumes. We may, however, safely state, that as health is a blessing which cannot be too highly estimated, every person must naturally be concerned in the subjects which, at this time, have occupied the honourable Baronet's attention. To us, these volumes have afforded so much information, that we shall resort to them at all times

times as a sure directory for gaining and possessing that state of health without which every worldly blessing is of no avail. It is allowed, that Sir John has already taught the farmers of the kingdom to increase their agricultural produce at the rate of 10 *per centum per annum*; and it would not be surprising were that class of the community, healthy as it is, to have an addition to their natural life, in the like proportion as is said to have taken place with their rural produce, from the enlightened and correct writings of the Honourable Baronet.

3. *A View of the Mineralogy, Agriculture, Manufactures and Fisheries of the Island of Arran*, by the Reverend Mr Headrick. This, so far as it goes, is a most useful publication; and we must expresss our surprise at the worthy author having made so much of a subject, confessedly a barren one. In our next Number this work shall be noticed in a particular manner.

4. *Prize Essays and Transactions of the Highland Society of Scotland*, vol. III. It has not hitherto fallen in our way to say much of this Society. Indeed, the first and second volumes of their transactions were not highly calculated to provoke our attention. Not so the volume before us; which contains a number of excellent essays, every one of them on subjects of importance, and well adapted to promote the improvement of the country. Two of these essays, viz. on the diseases of sheep, and the introduction of sheep farming into the Highlands, are particularly valuable. The volume shall be examined with precision in our next Number.

5. *The Shepherd's Guide*, by James Hogg, the Ettrick shepherd. We presume that the most of our readers have heard of Mr Hogg, both as a poet and as a shepherd; and we venture to assure them, that the satisfaction to be enjoyed from his practical works, will not be exceeded by the pleasure received from his poetical compositions. Till of late, knowledge of sheep-husbandry was entirely restricted to shepherds and others employed in the management of that useful animal; whereas, at this day, the diseases of sheep, and the remedies to counteract them, are described by Mr Hogg and other practical professionalists, in the most satisfactory manner. This volume is written in a way which must ensure success; and, what is more, the information contained is of that sterling nature as must cause it to be of great public benefit. We reserve our full opinion of the work to a future occasion, when it shall be noticed with respectful attention.

BRANCH

BRANCH II.

Agricultural Intelligence.

The weather, ſince the commencement of 1807, has gone into extremes; of courſe, the crops of the year are unequal and variable in quality, according to ſoil, ſituation, and other local circumſtances. The exceſſive wetneſs of winter, ſucceeded by ſevere black froſts, whereby the clay ſoils were mellowed in a greater degree than commonly happens, and theſe followed by heavy rains in May and June, placed the lands incumbent on a retentive bottom into ſomething like a ſtate of mortar, ſickening the plants growing on them, and effectually retarding the tillering proceſs afterwards. When in this condition a ſudden drought ſet in, which baked the ſurface into a brick conſiſtency, and prevented that improvement of the crops generally experienced when warmneſs arrives.

The light ſoils, on the contrary, were greatly benefited by the early ſummer rains, and promiſed moſt abundant crops, had not the after-drought checked their progreſs, and ſtunted them conſiderably. Under preſent circumſtances, the beſt wheats are on lands of this deſcription, and the heavieſt returns of hay have alſo been got from them. Turnips have rarely ſucceeded on any other variety of ſoil, the ſowing proceſs being long prevented on loams, and afterwards imperfectly executed in numberleſs inſtances. Theſe ſtatements will be found generally applicable to the whole iſland; though it muſt be remarked that, as a partial relief from drought was received in ſome diſtricts earlier, and to a greater extent than in others, the benefit thereby conferred will of conſequence be in direct proportion with the ſituation of the crops when moiſture was received, or, in other words, with the ſtage of growth at which they had arrived when favoured with relief. To oats, beans, turnips and graſſes, a further ſupply of rain undoubtedly would be beneficial; but it is a queſtionable circumſtance whether the crops of wheat and barley would be benefited by rain at this ſeaſon, the quality, and in ſome meaſure the quantity, of theſe grains depending upon the dryneſs and warmneſs of weather during the filling and ripening proceſſes. According to our accounts, few of the crops are to be of ordinary bulk; nor will a deficiency of this nature excite ſurpriſe, when the preceding circumſtances are ſufficiently conſidered.

Markets for grain have been tolerably ſteady through the quarter, the advance generally looked for at the date of our laſt not having taken place, owing, in ſome degree, to the great importation of American wheat and flour. Cattle and ſheep have, over the whole iſland, fallen in price conſiderably, eſpecially thoſe in a lean or half fed condition; a circumſtance which occaſions a ſuſpicion of the breeding trade having been carried further than required by the actual demand. Be this as it

may, the breeder and feeder will now be placed under more equal circumſtances than for ſeveral years paſt, the former having reaped more than his equal ſhare of profits, whilſt the gains of the latter were not greater than he derived when prices in the dead market were twenty-five per cent. inferior.

It is noticed with ſatisfaction by ſome of our reporters, that ſteps are now to be taken for obtaining relief from the ſeverity of the property-tax; and we gladly offer our mite of praiſe to the farmers of Roxburgh-ſhire for taking the lead in ſuch a ſalutary meaſure. Unleſs their endeavours, however, are backed by their brethren in other counties, it is to be dreaded that ſucceſs will be wanting; and on that account meetings in every county are anxiouſly recommended. No man defends the ſyſtem according to which the property-tax is levied on the farming intereſt, on account of its juſtice; but many ſupport it on account of its convenience and prolificknefs. Theſe circumſtances will cauſe the preſent mode to be retained, till a ſteady and ſtrong oppoſition appears againſt it; and in this oppoſition the landed intereſt appears to be fully as much concerned as the tenantry, becauſe the tax will eventually fall upon the landholder. It has been ſuggeſted, that a tax upon the farmer's ſtock would be a more equitable meaſure than one upon his gains and profits, eſpecially when theſe are aſcertained by a rule which applies to the ſituation of few people, and at the beſt is neceſſarily unequal, when applied to the great body of cultivators. The ſtock of a farmer is eaſily valued; therefore, were diſputes to ariſe reſpecting the tax, a reference to facts could at once be made, either by the owner or by the commiſſioners. In this way, none would be taxed unleſs they poſſeſſed property; whereas, according to the preſent mode, a farmer may be taxed at a high rate for gains and profits, notwithſtanding of his being actually a bankrupt. The ſuggeſtion deſerves conſideration, having at leaſt the merit of being agreeable to the title of the act; whereas the criterion, according to which farmers are preſently aſſeſſed, has no more connexion with the ſtate of their property, than it has with the rules of aſſeſſment operating on other claſſes of the community.

Though rather out of place, yet, at the requeſt of a reſpectable correſpondent, the following errors, which have got into the 3d volume of the Highland Society's Tranſactions, are here noticed.

In page 177, laſt line but three, for *ſtalks*, read *ſtools*.

In page 291, note, line firſt, for 'when too much done,' read 'when *not* too much done.'

Purchaſers of this volume, if they think it worth while to know the author's real meaning, are requeſted to make theſe corrections, and to draw a pen through the lower note, page 159, which the author omitted to do though intended,—being doubtful of the propriety of uſing the name of Dr R. without his conſent, and wiſhing to correct the Poa compreſſa and to inſert the Poa fluitans, which is the name of the plant in the Flora Britannica. The Poa compreſſa has a flat ſtalk, the Poa fluitans a flat ſheath. Botaniſts have given the name of Feſtuca fluitans to various plants.

At

At the requeſt of another correſpondent, we intimate, that the foreſt of Sleagoyle, in the diſtrict of Kintyre, Argyleſhire, containing betwixt eight and nine thouſand Scotch acres of excellent ſheep-paſture, is to be let from Whitſunday 1809, in one, two, or three farms, as may be agreed on; each of which is provided with improveable low grounds, where ſnow is little known, for wintering upon; and alſo admirably calculated for turnip huſbandry. The vicinity of the great Clyde markets, the extent and other well known advantages of theſe lands, open ſuch a wide field of improvement and profit to the experienced and enterprizing farmer, that it is our duty to recommend them to our ſouth country friends, many of whom we know eagerly deſire to find out an eligible ſituation of this kind, where they might bring into action the large ſtock of knowledge accumulated in the original ſheep diſtricts. We are informed that the lands will be ſhown by Mr Alexander Sinclair at Kilchamaig; and that offers may be given to John Campbell, Eſq. writer, Inverary, or to Robert Campbell, Eſq. writer to the ſignet, Charlotte Street, Edinburgh.

SCOTLAND.

Letter from a Gentleman who lately viſited Caithneſs, dated 20th July.

'HAVING had occaſion to be in Caithneſs for a few weeks, I was agreeably diſappointed to find it a much more improveable country than what people in your ſouthern diſtricts generally ſuppoſe. If the following obſervations ſhall appear worthy of notice, they are much at your ſervice.

'The firſt objects which arreſt the attention of a ſtranger, are the extenſive improvements carried on by Sir John Sinclair; ſome of which have been attended with ſucceſs, others have not; but, throughout the whole, there appears a generous and liberal purpoſe of improving the country and its inhabitants, unſhackled by any contracted or narrow motives, and of which the general voice bears ample teſtimony. Mr Traill's improvements, too, cannot fail to attract the notice and admiration of ſtrangers, who know the unremitting attention and exertion neceſſary to accompliſh what he has performed.

'The face of the pariſhes in the vicinity of the town of Thurſo, and along the ſea-coaſt to the town of Wick, extending into the country about ſix miles, is exactly what a farmer could wiſh, being compoſed of gently riſing grounds and alternate low meadows and lochs in which there is in general excellent marl. The ſoil of the pariſhes near Thurſo, is, in general, a clayey loam of a dark red colour, and fine in quality. The average depth of it appears to be from nine to fifteen inches; and the whole of this deſcription of ſoil, almoſt without an exception, is incumbent on an horizontal grey ſlate rock. This rock retains on its ſurface all ſpring and rain water, and of courſe forms a channel for it from top to bottom of the declivities; conſequently the outcry againſt

the wetneſs of Caithneſs, for ſix or ſeven months of the year, is univerſal; and it is a general complaint that corn crops do not exhibit much progreſs *before the nights get long;* which may be conſtrued to mean, *before the ſoil recovers its vegetative force after the deſtructive effects of ſuperabundant moiſture for the greateſt part of the year.*

'Almoſt the whole of the new fields and enclofures of Caithneſs are formed in the uſual manner, with their longeſt ſides parallel to the declivity. But it is conceived, that enclofures in that county ſhould lye quite the reverſe way, that is, with their longeſt ſides nearly at right angles to the declination. No field, it is humbly thought, ſhould be of greater breadth than 120 yards, and completely protected by an open drain on the upper ſide of the field. In lining off this drain, or upper ſide of the field, it ought particularly to be attended to, that the water ſhall run with, and not againſt the ſeam or natural declivity of the rock; and that it ſhall have a ſlope ſo ſufficient as not to encourage in the leaſt the ſtagnation of water. It might be of advantage, where there may be much water at certain ſeaſons, to face the under ſide of the drain with ſod or divot to prevent cutting. If theſe ideas are well founded, it appears adviſable, that all long fields, formed in the uſual mode, ſhould be ſubdivided by open croſs drains, as deep as the ſurface of the retentive rock or ſubſoil, at the diſtance from each other above ſtated, having a ſlope or fall from end to end of about one inch to the yard. Such drains need not be more, in the general caſe, than the width of a furrow ſpade.

'It is a general obſervation, that trees and thorn hedges do not ſucceed in Caithneſs The climate is certainly againſt theſe, and the poſition of the rock is inimical to their roots ſearching downwards. But it is ſubmitted, that too much moiſture is equally adverſe to their growth. This laſt evil can only be guarded againſt by numerous interſecting drains. Where the ground is perfectly dry, and well fenced, it is ſuppoſed trees will ſucceed. As corroborative of this opinion, at Braal, in the pariſh of Halkirk, and at Tiſter, in the pariſh of Bower, ſome trees, conſiſting chiefly of plane and aſh, have attained a conſiderable ſize, and appear thriving. The firſt ſituation is low, the ſecond is high and unſheltered; but both are dry, from their peculiar ſituation. Thoſe at Tiſter ſtand on the very ſummit of that property, and thoſe at Braal on a dry bank of the river of Thurſo Both of theſe places, indeed, are diſtant from the ſea-coaſt about ſix Engliſh miles. It was ſtated to me, that there are excellent thorn hedges in the pariſh of Wattin. This pariſh is alſo inland, and it is underſtood that the ſoil is dry from its ſuperior depth, or a difference in the ſubſtratum.

Winter wheat is reported not to ſucceed in Caithneſs, but ſpring wheat has been known to produce a fair crop. Mr Traill produced a decent ſample. This remark proves the extreme wetneſs of the fields in winter and ſpring; but if a plan be adopted of keeping the lands much drier than they have hitherto been, it is preſumed that both winter and ſpring wheat may be tried with ſucceſs after a ſummer fallow well prepared.

pared. It is in vain to attempt raiſing beans on land that has been ſocked with wet during winter. Perhaps the climate may be unfavourable to this laſt grain; but beans are raiſed in Roſsſhire, and it would be raſh to ſpeak decidedly on this ſubject without a fair experiment being made on ground well managed. At all events, I am warranted in maintaining, that, in the preſent wet ſtate of the grounds, no grain can be raiſed of that good quaility which the ſoil, with different management, ſeems capable of producing.'

Letter from Upper Annandale, 22d July.

AFTER ſome weeks of drought, which began to alarm the farmers, the late moderate and ſucceſſive rains have been moſt refreſhing. The moiſture came too late for ſome particular ſowings of turnips, and for this crop of ſown graſs; on which account, ſome turnips have riſen unequally, and the ſown graſſes are light in hay; the paſtures were alſo, in ſome inſtances, conſiderably injured, which reduced ſtill lower, the fallen prices of cattle. But with theſe exceptions, every thing is now refreſhed, and flouriſhing. Wheat, oats, and barley, promiſe a full average crop; manured meadows are excellent; flax appears better than ordinary; potatoes early ſet are inferior, but later ones are generally fine. Early Swediſh turnips ſown in May, came up unequally; but the crop in general appears well. Prices of oats 3s. to 4s. *per* buſhel, 6 of which in a boll; wheat 8s.; oatmeal 3s. *per* ſtone. Fat cattle ſell well; lean are very low. The wool market uncertain, as the buyers are timid. Good horſes enormouſly high; black faced hogs have ſold at 15s. to 18s. each.

Letter from the Diſtrict of Carrick, July 22d.

'THE firſt month of this quarter was generally very wet, and was ſucceeded by nearly a month of cold, dry, froſty winds, which checked vegetation remarkably; and even, in ſome of the fertile parts of this diſtrict of the county, threatened the worſt of conſequences. In fact, at the end of June, vegetation ſeemed almoſt ſtationary. Since about the beginning of this month, we have had ſome fine ſhowers, with an extraordinary degree of warmth, which has completely changed the complexion of the fields. Verdure is reſtored to the paſtures, and the crops which, toward the end of June, were ſcarce covering the earth, are now coming on vigorouſly, and promiſe to be tolerable. Though there does not at preſent appear to be a deficiency in any of the crops, yet if a compariſon were to be made, it is believed that it would be in favour of wheat, of which there is now a conſiderable quantity ſown. Turnips and potatoes, of which alſo great quantities are every where planted, are looking well. And ſo much progreſs has been made of late in agricultural improvement, that beautiful fields of drilled beans are frequently to be ſeen, which would not diſhonour the beſt cultivated diſtricts of Scotland. Neceſſity is ſaid to be the mother of invention, and it is applicable in the preſent caſe. This improved mode of agriculture may, in a great meaſure, be aſcribed to the increaſe of rents that is every day taking place. When land, as of late, is taken

at the rate of 3l. *per* acre, it rouſes all the energy of the tenant, and cauſes him to excite the whole of his ingenuity to be able to fulfil his engagements. And it would ſeem he is, at laſt, convinced from experience, that the new huſbandry is beſt calculated for that purpoſe.

'The price of oats and oatmeal has rather advanced during this quarter; bear and barley can ſcarce be ſold at any price; for ſome time paſt oatmeal has been at 1s. 6d. *per* peck. If by theſe means, and the preſent appearance of the ſeveral crops, the tillage farmer is encouraged to hope, a moſt diſtreſſing damp has clouded the mind of the grazier. There is almoſt a complete ſtagnation in the ſale of cattle; and any that have been ſold are at ſuch a depreciation, as muſt ſoon become ruinous. Whatever this may be owing to, whether to the decreaſe of manufactures, or to the ſtate of keeping in England, it has entirely overturned the uſual theory, that the price of corn and cattle commonly keep pace with each other. The wages of labourers, mechanics, and jobbers, continue rather upon the increaſe, which muſt always happen in an improving county that is but thinly peopled.'

Dumfrieſhire Quarterly Report.

THE weather for the laſt three months has been favourable for the purſuits of the farmer. Wheat, and early ſown barley, are now in full growth, and promiſing a good produce, having had moderate rains and fine weather while in the bloſſom; barley ſown after April was kept back by the drought, and has not yet got the better of it. Potatoes are healthy and forward; but young turnips are generally in a backward ſtate. Thoſe ſown early were in many inſtances injured by the fly, and thoſe later were kept back by the drought. They may ſtill, however, be a tolerable crop, from the favourable weather which has been of late.

The ſpring was conſidered rather unfavourable for the ſtore farmers, and there was no doubt a conſiderable loſs of lambs; but it has not had the effect to raiſe the price of the remainder, nor of young ſheep in the Engliſh markets. Though the fairs have not been more crowded than uſual, the prices are conſiderably below thoſe of laſt year; it is ſuppoſed from 10 to 15 *per cent.* Wool was expected not to undergo much alteration; but at preſent this ſeems to be a doubtful matter. At ſome of the principal fairs of this county, which were attended by many ſtaplers and farmers, no bargains were made.

The ſales of cattle have not been more favourable for the farmer; excepting aged bullocks, which went off in good condition in the ſpring for the ſouth, no other kind have paid for keeping. Year old and two year old cattle have ſold about 20 *per cent.* under the prices of laſt year. This fall will be felt heavy by the breeder; but the grazier will not feel it in the ſame degree. If he ſells cheaper, he will buy or lay in cheaper again. And to conſider fairly of his ſituation, it is believed that he requires more advantage than he has had for the two laſt years. Though the butcher market cannot be ſaid to have fallen low, it muſt be allowed that the feeder was not paid a reaſonable difference between the price he gave for lean ſtock and that got by him from the butcher. If, then,

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the breeder has hitherto got more for his young or lean ſtock than what could be afforded by the feeder, it is but fair that his prices ſhould be moderated, as ſeems now to be the caſe.

In this county the extent of wheat crops is yearly increaſing, there being now ſcarce a farmer in the lower diſtrict, and even in the midland one, but grows this grain leſs or more. But if the growth has increaſed, the conſumption has alſo increaſed, there being few families of any deſcription who do not uſe wheat bread. Bakers are eſtabliſhed not only in all the villages, but alſo in many remote places diſtant from towns. The ſale of wheat, however, is not dependent on theſe; what is of good quality being bought readily for the Liverpool and Lancaſter markets; though it happened well for the growers laſt year that there was an inferior market, there being a conſiderable quantity of mildewed grain, and mixed with ſmut. This laſt mentioned diſorder, however, is not ſo pernicious as formerly, now that thraſhing mills are generally introduced.

Preſent prices—Beſt Wheat, 9s.; Inferior, 7s.; Barley, 4s.; good Oats, 4s. per Winchester buſhel; Beef and Mutton from 5d to 6d.; Lamb from 4d. to 5d. per lib. of 16 oz.; Bacon Hams, 10s. 6d. Flitches, 8s. per ſtone of 14 lib.——*July* 23.

Banffſhire Quarterly Report.

The weather during the ſummer quarter, has, upon the whole, been hoſtile to vegetation, but, in every other reſpect, favourable to rural operations. Although frequent ſhowers were experienced towards the end of May, and through the greater part of June, yet the cold, dry, chilling winds that ſucceeded, prevented every article in the ground from receiving much benefit. This month commenced with more genial weather, and the crops of corn and graſs were thereby much relieved; but the drought having again ſet in pretty ſevere, gravels and all inferior ſoils rather preſent a ſtunted appearance: deep free loams, however, hold out ſtill, but the general proſpect does not indicate a very abundant harveſt, unleſs a great alteration ſoon take place. Another evil threatens to affect the farmer more ſeverely. Cattle, which have been the real ſupport of the county for ſeveral years, are become a drug upon his hand. By means of this branch ſucceeding hitherto, the farmer was enabled to ſupport an immenſe load of taxation, an unlooked for increaſe in the price of labour, land rent, &c. and alſo to execute conſiderable improvements, in a diſtrict where no extraordinary capital is inveſted with agriculturiſts. Some lots of high conditioned winterings, went off early to pretty good account, principally to the butcher, at about 9s. *per* ſtone ſink. But cattle in ordinary condition have had little demand as yet, thoſe marketed being ſold at 20 *per cent.* under laſt year's prices, while paſtures are ſtill overſtocked. Hay is but a light crop, many fields having been ſown down early: this article has a chance of ſelling better than for ſeveral years paſt. Turnips are not promiſing well, unleſs ſome of theſe which were early ſown: the ſeed remained long in a dormant ſtate, and plants are making but little progreſs. Grain finds a ready ſale; Common oats 22s. *per* boll of 128 Scotch pints; oat meal, 21s. *per* boll of eight ſtone

Dutch, and in retail 16½d. *per* peck of eight pounds. Barley, as uſual, much rejected by the merchant; for which reaſon, its cultivation is every year more and more curtailed.——23*d July.*

Tweeddale Quarterly Report.

THE weather was too wet in the month of May for finiſhing barley ſeed and preparing the turnip fallows in a ſufficient manner; therefore, theſe operations were imperfectly executed. On low and well improven lands, the ſeveral crops long maintained a healthy aſpect; but thoſe on high and cold ſoils never preſented a more unpromiſing appearance, many of them not covering the ſurface in the end of June. Indeed, from the coldneſs of the preceding months, every thing is three weeks later than uſual; and the drought having been very ſevere, both corn and graſs have recently ſuffered much. For ſome days paſt, a few partial ſhowers have fallen; and laſt night, along with a thunder ſtorm, a conſiderable ſupply of rain was received, which may ſtill be of great benefit to the paſtures, aftermath, turnips, and late ſown corn fields.

The hay crop, now cutting, is, on thin and cold bottomed ſoils, very light; but on thoſe of a deeper nature the return is not amiſs, though ſcarcely to be eſtimated as equal to an average. One thing may here be remarked, *viz.* the general ſcarcity of clover plants, though the ground was well planted at harveſt; and this ſcarcity is attributed to the ſevere black froſts which prevailed in the ſpring months. The turnip fields look tolerably well, though kept back by the drought, as neither caterpillars nor flies have troubled them this ſeaſon. Cattle markets have been dull for ſome time, owing to the ſcarcity of graſs increaſing the number of ſellers, while the number of purchaſers is in like manner leſſened. Sheep did not ſell well at the Linton markets, the quantity preſented exceeding the demand; ſo, of courſe, prices decreaſed. Lambs likewiſe ſold below laſt year's rates, except thoſe early ready and fit for the butcher.

Labour ſtill continues high priced, while the rent of land is not in the ſlighteſt degree abated. In fact, the farmer has to ſtruggle with many hardſhips, though none of them are more intolerable than the exaction under the property tax act. The farmers of Great Britain have uniformly ſhown a deſire to ſupport the meaſures of Government, and, in every inſtance, have met the exigency of the times with ſuch ſteadineſs and alacrity, that it is ſurpriſing they ſhould have been ſingled out from the reſt of their fellow ſubjects by this act. The general principle of aſcertaining gains and profits according to the extent of rent covenanted to be paid, is ſo manifeſtly abſurd, that it would be ſuperfluous to argue againſt it; but if abſurd as a general principle, it is ten times more abſurd when applied to individual caſes, as muſt be evident to every perſon acquainted in the ſlighteſt manner with rural economy, or with the extent of expence at which the produce of the ground is raiſed in different ſoils and ſituations.——*July* 24*th.*

Wigtonſhire Quarterly Report.

THOUGH our winter and ſpring months were very vexatious, yet ſummer

mer has, upon the whole, been favourable. May, and part of June, were moiſt, though generally cold; but, what is a curious and rather rare circumſtance, it is aſſerted, that the diſtrict called the Rhins of Galloway, was favoured with more frequent ſhowers during theſe months than the reſt of the county; and there, of courſe, vegetation came more quickly forward.

However, about three weeks of drought became general, and in many ſituations has been ſeverely felt. Turnips ſown during the moſt of this period, have brairded unequally.

Rain accompanied by thunder, came upon the 11th current; and ſince then, we have had few dry days. Thunder and lightning have been alſo very frequent. Hay ſuffers, and corn crops have already begun to lodge.

In many ſituations, particularly in cold, heavy, and mooriſh ſoils, the grub and ſuch like inſects, have depredated extenſively; yet, upon the whole, preſent appearances bid fair for a crop beyond the average of years.

Corn markets have been pretty ſteady of late, and it ſeems to be underſtood, that the demand for cattle is quickening, though in almoſt all ſales yet made, complaints have been heard that keeping has not been well paid for; a diſcouraging buſineſs for ſpeculators in graſs land.

The new horſe fair of Stranraer, held upon the 25th ult., ſucceeded well, and good draught horſes brought very decent prices. Indeed, horſes of this deſcription have been advancing progreſſively; and perhaps it might be worth while for an extenſive farmer to calculate upon the probable profits of rearing this kind of ſtock upon a larger and more ſyſtematic ſcale than we are yet acquainted with.——*24th July.*

Dumbartonſhire Quarterly Report.

The weather during May afforded a ſufficient quantity of rain at ſeaſonable intervals; but the cold froſty winds which prevailed during that month retarded vegetation very much. The firſt half of June alſo afforded ſufficient moiſture; and the drought did little harm till the firſt ten days of July, after which, we had enough of rain. On the 23d current, it was ſo heavy, as to lodge ſome parts of the wheat fields, but to no great extent. During the whole ſummer it has been very windy for the ſeaſon, and as yet we have had no calm, ſettled weather.

The wheat crop looks well, and, if we have warmneſs during the ripening ſeaſon, promiſes to be a fair crop. The oats are ſtill a little ſhort in the ſtraw, but the late rains will remove that complaint. The bear, and peas and beans, appear as promiſing as uſual. Potatoes, though late, look well; but the turnips are much complained of; however, it is probable the rains may recover them alſo. The hay crop, from the rains in May, has turned out much heavier than for two years paſt. The greateſt part of it is already ſecured in fine condition, but a little ſtill remains expoſed; no price is yet talked of. One general remark may be made as applicable to all the crops this ſeaſon, that they are about two weeks later than laſt year. We will therefore be expoſed to the dangers of a late harveſt, unleſs the weather is uncommonly good.

The

The markets have continued pretty ſteady during the quarter, and without any great variation in price. The rate of rents continues on the advance, but ſervants' wages increaſe ſtill more rapidly. Indeed ſervants are ſo ſcarce as to be procured with difficulty at any price; and unleſs ſome relief is ſoon experienced in this reſpect, it will be impoſſible to proceed with agricultural improvements. In the preſent ſtate of things, the expenſe of their wages is not the only evil, for the difficulty of managing them is much increaſed, although the quantity of their labour is diminiſhed. Many hundreds of Iriſh labourers come over to this country yearly. Some of them turn out very well, and others bad enough; but while the ſcarcity at home continues, ſuch a ſupply muſt be conſidered as an advantage.——25*th July.*

Perthſhire Quarterly Report.

For theſe four weeks, ſcarcely any rain fell in this county, excepting ſome ſlight ſhowers in the weſtern parts, till the 23d inſtant, when the weather broke, and we have ſince had ſeveral very heavy thunder ſhowers. Such a tract of dry weather has hurt the crop conſiderably. Wheat indeed, where it was not thrown out by the early ſpring froſts, will be a weighty crop; and beans and peas are uncommonly fine on good land. But barley, excepting what was early ſown on deep ſoils, has a very unpromiſing appearance. Much of it was put in while the ground was wet; and the drought ſoon ſetting in with ſeverity, there is at preſent no reaſon to expect more than half a middling crop in many inſtances. The oats ſtruggled long with the drought. The produce in grain, owing to the recent rains, may not be far ſhort of a medium; but the ſtraw will not now be bulky. The crop of hay is very light on all thin ſoils, but on rich land well ſtocked with clover, there ſeems little reaſon for complaining. The potatoe crop ſuffered in the firſt inſtance by exceſſive wetneſs, whereby many of the ſets were rotted, and afterwards by drought, which hardened the ground, eſpecially where it had any clay in its compoſition. Turnips have brairded very unequally, and will be late; which likewiſe will be the caſe with every ſpecies of crop, excepting perhaps wheat. Flax had an uncommonly fine appearance in the beginning of the ſeaſon, but the check given by the dry weather, has, to a certainty, greatly leſſened the produce in many places. Towards the weſt ſide of the county, where the climate is more moiſt, this article will be very fine.

There is little doing in our grain market at preſent. Wheat is about 37s. *per* boll, and oatmeal 1s. 7d. *per* peck. There is likewiſe a ſtagnation in the cattle trade. But as that is the caſe generally over the iſland, there is perhaps ſmall occaſion for noticing it particularly, in a provincial report.

It has been ſaid, that there is more coppice-wood, chiefly oak, in Perthſhire than in all Scotland beſides. The principal part of theſe coppices is to be met with in the Highland part of the county, where a very large fall of it has taken place this year, owing in ſome meaſure, no doubt, to the tempting price that both timber and bark bring at preſent. In ſome diſtricts on Loch-Earn-ſide, for inſtance, much injury has

has been ſuſtained by the oak caterpillar this ſummer. Prematurely ſtripping trees of their leaves, is known to retard their growth; but it is apprehended, that a practical remedy for this evil is rather to be wiſhed for than expected.

Every wellwiſher to agriculture muſt be gratified by learning, that an attempt is at length to be made to have the farmer relieved from the preſent unjuſt and oppreſſive method of aſſeſſing him to the property-tax. The gentlemen farmers of Roxburghſhire have certainly done themſelves much honour by taking the lead in this meaſure; and it is to be hoped that thoſe of other counties will join with them in petitioning for relief from ſuch an unreaſonable exaction. The patience with which it has hitherto been born is truly wonderful, and can only be accounted for by a reference to the peaceable and orderly diſpoſition of the profeſſion, which leads them to ſubmit, almoſt on every occaſion, to the laws, without murmur or complaint.——*July 25th.*

Aberdeenſhire Quarterly Report.

The weather, which was cold and ſtormy during the ſpring ſeaſon, has continued ſomething ſimilar through the ſummer months; and, on the whole, rather adverſe to vegetation. The hay crop, which is generally cured in the higheſt ſtate of perfection, is but light and inſignificant, except on the beſt ſoils. Paſtures have not yielded keep for near the uſual number of ſtock, in many places, land being much poached, in the firſt inſtance, by wetneſs, and afterwards parched by drought. Markets for cattle have been dull; the beſt ſtock, or thoſe of ſize and condition, being ſold 12 or 14 per cent. below their value in former years; whilſt the inferior, or lean cattle, could ſcarcely find a purchaſer at any price. Sheep in ordinary condition have come lower in a greater degree, whether ewes or wedders, while ſtock fit for the butcher, whether cattle or ſheep, have met with a ready ſale, and at a fair value. The ſeaſon for ſowing the turnip crop was exceedingly good, and the plants generally got up full and cloſe on the ground; but, owing to the exceſſive coldneſs of the atmoſphere, they have not come on ſo faſt as might have been expected; and upon thin land, or ſuch as had a high expoſure, they have made an imperfect appearance. The corn crops are generally cloſe and full on the ground, owing to the goodneſs of the ſeed; but, except on the fineſt fields, they have not got very high; ſo that, however well they may cover the ground, there is little probability of the ſtack-yards being filled to the uſual ſize. As the ſeed was late of being laid down, and as the weather for two weeks paſt has been warmer and favourable, it is to be hoped that the crops of every kind will equal the ordinary average. Potatoes are far behind in the appearance they generally make at this ſeaſon; and fruit has been in many places entirely cut off by the froſt. There has been little difference in the prices of grain ſince the date of laſt report. Oats and oatmeal may be quoted at from 20s. to 23s. per boll, in the Aberdeen market; while bear remains almoſt unſaleable. Work of every kind is carried on with the accuſtomed ſpirit and alacrity. Labour was never higher, nor hands obtained with greater difficulty.——*July 25.*

Letter

Letter from Falkirk, July 25.

'SINCE laſt report the weather has been much in extremes. The early part of the current quarter was unuſually wet for the ſeaſon, and, following after long continued ſpring froſts, which had mellowed and looſened the earth to a great depth, reduced it almoſt to the ſtate of mortar. During the month of June, and up to the 23d inſtant, there prevailed a moſt exceſſive drought, not merely from the abſence of rain, but a clear unclouded ſun, accompanied with high withering winds, which completely dried the earth up to the very bottom of the furrow. In a clay diſtrict like the Carſe of Falkirk, it will naturally be concluded that ſuch a ſtate of weather could not be favourable to the growing crops. This has certainly, in ſome degree, been the caſe, but leſs than might have been expected. Hay has been got up in the beſt condition, with little trouble, and at the leaſt poſſible expenſe. Owing to the deficiency of clover from the ſpring froſts, it is of ſmall bulk, but, being compoſed almoſt entirely of rye-graſs, will weigh heavier than its appearance in the rick would lead us to expect. Even taking this circumſtance, however, into the account, it is a deficient crop; and if it is alſo conſidered, that there is ſcarcely a handful of old hay in the diſtrict, the price will probably be high, though at laſt market day this was in no degree ſettled, the ideas of the buyers and ſellers on this point being farther apart than uſual. Paſtures have ſtood out better than could have been expected, thoſe at leaſt which were not too early ſtocked; and, as they have now had an abundant ſupply of moiſture, will probably continue good. Our wheat this ſeaſon has grown uncommonly tall, but is thinner on the ground than laſt year, which has prevented it lodging extenſively, notwithſtanding the late heavy rains. This will probably give a ſuperior quality of grain to that of laſt year, which, though of great bulk, was much injured from being early lodged. This crop, after potatoes and drilled beans, is ſtrikingly inferior to that after fallow. Late ſown barley is moſt wretched; it ſcarcely deſerves the name of a crop; what was ſown earlier is tolerably good. Oats are but a very middling crop; till lately they were extremely unpromiſing and ſhort in the ſtraw, but, having now got a full ſupply of moiſture, will probably mend a good deal. They are likely to be below an average. Beans are by much the beſt crop in the Carſe this year. They are extremely luxuriant, and promiſe an abundant return. Upon the whole, although much no doubt depends on after weather, we ſhall ſcarcely reach an average crop in this diſtrict. Harveſt will be earlier than it promiſed ſome time ago; with favourable weather it will commence in four or five weeks. Summer fallows are generally in good order; where otherwiſe, it is owing entirely to negligence or miſmanagement, the weather having been uncommonly favourable for carrying forward that important operation in the moſt perfect way. Our grain market has been remarkably dull, eſpecially for wheat, that article for ſome time being ſcarcely ſaleable. This is ſaid to be owing to large importations of wheat from France,

France, and flour from America. Of late it has turned rather briſker; the preſent price about 38s. per Linlithgow boll. The granaries along the canal are ſtill well ſtored with this article, which has for ſome time been almoſt entirely out of the hands of the farmer; as has alſo barley, the price of which is about 32s., beans 29s. There has been a briſk demand for oats; price entirely regulated by quality, that is, by weight; oat-meal in retail 1s. 8d. per peck. A conſiderable ſupply of oats from Ireland has probably prevented that article from going ſo high as was ſome time ago expected.'

Berwickſhire Quarterly Report.

If we except a few ſultry days previous to the thunder ſtorms, at the beginning of May, and on the 25th of that month, the general temperature of this quarter has been rather below par; a great deal of rain fell during the firſt month of the quarter, but from that time drought has been prevalent till the preſent week, that a few partial ſhowers have taken place.

Hay harveſt has hitherto experienced favourable weather; but, as moſt of the fields had been paſtured in the ſpring, owing to a general ſcarcity of keep at that period, the crop is far from being weighty. Paſtures upon light loamy ſoils were good till the drought began to take effect: upon clay land they have all along done very little.

The rains in May, while they rendered many of the heavy loams unfit for turnip, greatly retarded the working of lighter ſoils, and occaſioned a large proportion of the turnip fallows to be ſown in an imperfect ſtate as to cleanneſs: upon light, dry ſoils, the ſeeds have vegetated freely, and the plants are thriving; but where wetneſs or a mixture of clay prevailed, the braird has been partial. It may not be improper to mention a drill-machine, of an improved conſtruction, now pretty generally adopted in this county for ſowing turnip, as it does the buſineſs more completely than any hitherto in uſe; being ſo contrived, that the coulters which open the ſoil and depoſite the ſeed, are ſeverally made to riſe up backwards, when they meet with any obſtacle that does not eaſily give way, and, as ſoon as they have paſſed it, fall into their place again. This machine ſows two drills at a time, and can be attempered to make the rows of any given wideneſs, and lay the ſeeds at any depth that may be required. *

Wheats are luxuriant, but rather ſmall in the ear. Oats upon freſh loams, promiſe an abundant crop; upon thin land their appearance is not favourable. Barley is generally thin. Beans are very thriving; and peas have lately aſſumed a promiſing aſpect. Preſent appearances ſeem rather to indicate a late harveſt; but much will depend upon the weather that ſhall intervene between and that period.

Lean ſtock, particularly cattle, has all along experienced a dull ſale, attended with a conſequent reduction in value; hog ſheep having ſold from 12 to 14 *per cent.*, and lambs from 20 to 25 *per cent.* below the rates

* The drill above mentioned is made in a very ſubſtantial manner by Mr Allan, joiner at Coldſtream. Price five guineas and a half.

rates of laſt year. Good fat has ſold currently at 7s. 6d. and 8s. per ſtone, ſink, of 14 lib. avoirdupois.

Fine Cheviot wool has brought fully laſt year's price; but long wool is about 8 *per cent.* down. Contrary to every expectation, corn markets have not been affected in the ſmalleſt degree from the enemy's poſſeſſion of Poland, or the fall of Dantzick. Prices at Berwick, on Saturday laſt, were, wheat from 50s. to 52s. Oats 25s. per boll of 6 buſhels. Barley or Peas are ſcarcely now to be met with at market.—*July* 25.

Letter from Langholm, July 25.

'THE weather, during the laſt quarter, has been generally warm and dry, a few days excepted, till the 12th of the preſent month; ſince which, we have had rain leſs or more every day. The crop of ſown graſs, was moſtly got up before that period, and in excellent order; but owing to the ſpring froſts, there is leſs proportion of clover than uſual. The drought in June and the beginning of July, has hurt the turnip crop in many places, the ſeed not having vegetated equally in ſeveral inſtances. The corn, which lay longer than uſual under the clod, has of late made a rapid progreſs on rich ſoils, but on thoſe of a poorer and lighter quality, it has a weak and ſtarved aſpect. Potatoe fields, in moſt places, have a healthy appearance. Harveſt, it is probable, will be conſiderably later this ſeaſon than uſual.

'There is at preſent an abundant fluſh of graſs on the paſtures, and both ſheep and black cattle are thriving well, though the former were generally leaner at the commencement of ſummer than uſual. Owing to this cauſe, which may be attributed to the barrenneſs of the ſpring months, there is a deficiency of lambs every where on the high land paſtures. The prices of ſheep have declined conſiderably of late. Lambs, though certainly a ſcarcer article than laſt ſeaſon, are ſelling at reduced prices. Black cattle, notwithſtanding the plenty of ſummer food, can ſcarcely be ſold at any price. At our wool fair on the 15th inſtant, there were few if any purchaſes made, though well attended both by the ſtaplers from Yorkſhire, and the farmers in this and the neighbouring diſtricts; the ſellers demanding laſt year's prices, which the buyers refuſed to give.'

Letter from Glaſgow, July 27.

'THE wheats in this neigbourhood have in general a good appearance; and, ſhould the weather ſet in dry, and continue warm, will certainly turn out a good crop. Oats ſeem light, and will be deficient; more rain would be of ſervice to them, but would cauſe them to be very late. Beans and peas look well, as do alſo barleys in general; but of theſe two grains little has been ſown in this neighbourhood. Hay is a heavy crop; two favourable weeks would be ſufficient for getting it ſecured in good order. Potatoes will be late, and unleſs very favourable weather is received, we are much afraid the quality will be inferior. To take the crops upon the whole, we are of opinion that they have a fair appearance, but they are fully two weeks later than laſt year. It ſeems to us alſo, that dry, warm weather is the moſt to be deſired

fired in their preſent advanced ſtate. Within theſe few days paſt we have had a good deal of rain; ſome of the ſhowers were very heavy.

'The importation of grain into Clyde during the laſt three months has been conſiderable. From America, not leſs than 15,000 bolls of wheat, and 10,000 barrels of flour have arrived; and of both there is ſtill a conſiderable quantity expected. On account of this influx, the prices of wheat and flour will be kept moderate, unleſs an opening occurs in another quarter, and which, in fact, has in ſome degree already taken place. To Leith, of late, ſeveral parcels of wheat have been ſent. From Ireland and the ſouth of Scotland we have been abundantly ſupplied with oats, which has kept the price ſomewhat below that of other markets. But as the ſupply has not exceeded the conſumpt, unleſs (which is ſcarcely to be expected) freſh cargoes arrive, prices will, in our opinion, advance before the end of harveſt. Our ſtock of barley and beans is but ſmall; and prices of theſe muſt riſe before the new crop can be brought to market, unleſs larger ſupplies be received than expected. Annexed you have a ſtate of our markets.

'*State of Glaſgow markets, Monday, July 27.*

Dantzick Wheat	40s. to 42s.	p. boll Linlithgowſhire meaſure.
Foreign Red do.	34s.—38s.	
Scotch do.	34s.—39s.	
Engliſh do.	39s.—42s.	
American Wheat	38s.—40s.	p. boll of 240 lib.
Iriſh Mealing Oats	24s.—25s.	do. of 264 lib.
Do. Inferior do.	20s.—22s.	do. Renfrewſhire meaſure.
Scotch Potatoe do.	24s.—26s.	
Do. Small do.	21s.—23s.	
Engliſh Potatoe do.	27s.—28s.	do. Stirlingſhire do.
Scotch Barley	25s.—26s.	do. do. do.
Engliſh Beans	29s.—30s.	do. do. do.
Scotch do.	27s.—29s.	
Do. Oat-Meal	24s.—25s.	do. of 140 lib.
Fine Flour	62s.—63s.	ſack of 280 lib.'

Forfarſhire Quarterly Report.

The long tract of froſt mentioned in laſt report, was ſucceeded by a week or two of wet weather, which prevented the ſowing of barley from being finiſhed till about the laſt week of May. Since that period until the 23d current, there has almoſt been an inceſſant drought, which has impaired the crops on thin and clay ſoils materially. On light lands, the ſpring crops ſet forth with a promiſing appearance; but now the aſpect is different,—the paſtures are ſcorched,—the corns are burnt up,—and half the fodder uſually obtained may ſcarcely be expected. The fine rains which have fallen within theſe few days, were too late to recover them much. On clay lands the proſpect is not much better, being finely made by froſt, the rains in May put them into a ſtate almoſt like mortar, and the ſucceeding dry weather has rendered them almoſt as hard as brick. To the above remarks, wheat may form an exception, being a grain

grain less hurt by violent excesses of the weather than others. On soils proper for that valuable grain, and where the preparation was good, it is universally a fine crop; but on the contrary, where the soil is indifferent and preparation bad, the crop looks miserable. Having said thus much of the appearance on light and clay soils, it may be added, that those of a free and deep nature will bear a more favourable scrutiny; the excess of moisture in the end of May, did not stop the growth of corns on lands of that description, but only rendered them the more able to endure the excessive drought which followed. Oats of the late varieties, together with barley, will be very much behind in reaping, scarcely any of them being yet fully eared; in short, a late harvest may be dreaded.

Turnips have a promising appearance, the season for the dressing process having been excellent. The fallows have seldom been so early cleaned, and the manuring of them is going on rapidly. The prices of cattle have fallen since last report, and the graziers are doubtful if any grass rents will be obtained. As the country is full of stock, and the appearance of fodder but scanty, it is presumed that prices cannot rise towards the end of the year; and as the breeding system is followed extensively, there is little prospect of better markets for some time at least.—— *27th July.*

West Stirlingshire Quarterly Report.

The weather has been as unfavourable to the husbandman, during the present, as during the preceding quarter. In May, rain and frost generally prevailed. Towards the end of that month a glimpse of summer appeared; and, after a few showers in the beginning of June, the most severe drought set in that has ever been remembered. For the last three weeks we have had such genial and frequent rains as promise to counterbalance the injurious effects of the preceding weather.

From this statement it will readily occur, that the crops in this district must be uncommonly backward. From the time of the blossoming of broom, a plant where nature is left to exert her energies undisturbed by the skill or industry of man, I am inclined to think this season from two to three weeks later than the last.

Hay was both late and light, clover having suffered greatly. This crop has, in general, been admirably harvested, and, from its superior quality, will turn out more valuable than at first expected. Very little has yet been sold. I have been informed, that the Carron Iron Company began some weeks ago to purchase at the rate of one shilling per stone. They consume between thirty and forty thousand stones annually.

Whether the severity of the weather has injured the animal as well as the vegetable tribe, cannot be ascertained; but certainly diseases are uncommonly frequent this season among bestial. Sheep, particularly, are infested with maggots, which nestle under the skin, and in the course of four or five days occasion the death of the animal. When attacked, they run about, and betray incessant restlessness. The remedy employed for this malady, is to scrape off the maggots, and anoint the parts with tar.

tar. A few inſtances, for the firſt time, occurred laſt ſeaſon, but this year the diſeaſe has been very frequent. It ſeizes equally the poor as well as the fat ſheep, and thoſe paſturing on upland moors as well as on the richeſt vales.——*27th July.*

Mid-Lothian Quarterly Report.

From exceſſive rains and cold, during the ſpring months, being ſucceeded by dry parching weather during the greateſt part of June and three firſt weeks of July, the crops of oats and barley upon moſt ſoils appear both thin and ſhort. Wheat and beans look better, and bid fair to be average crops. Potatoes appear much inferior, and alſo far behind. Turnips ſown before the 18th of June, ſprung evenly, and, in general, look well; but thoſe that were ſown later, have either come up partially, or lain dormant. Since the 22d current, the country has been bleſſed with fine rains, and genial mild weather, from which the moſt happy effects are expected. The crops, at preſent, are a fortnight behind; in many caſes much more; and it is devoutly to be wiſhed, that an eke may be made to the month of July or Auguſt, or, at all events, that the elements this ſeaſon may be regulated by the old ſtyle. Hay has been got up in fine condition; the quality is excellent, and perhaps may afford more nouriſhment than in ſome ſeaſons when the bulk and quantity is greater. Oat-Meal, by retail, 1s. 8d. per peck of 8 lib. Dutch; the quartern loaf 1s.; butcher-meat 6d. and 7d. per lib. Dutch; cattle, beſt fat, 9s. per ſtone of 17½ lib. ſinking the offal, with a heavy ſale.

For ſome years paſt, encouragement has been given for harveſt-work, unknown and unthought of in former times; yet, in many markets, this encouragement has fallen ſhort of the utopian ideas of certain reſtleſs individuals, who ſeem to think, and indeed have ſaid, that, to aſſiſt in cutting down the crop, is conferring a favour upon the grower that can ſcarcely be repaid,—little reflecting, that it is the welfare of the community, more than that of the farmer, that is at ſtake; for, in the nature of the thing, he is only firſt in hand with that portion of the produce which he and his eſtabliſhment may require. It is the ſurplus (whether that may be ſmall or great) that comes to market; hence, every diminution of that ſurplus, from whatever cauſe it may ariſe, is a public loſs. Theſe reflections are excited by the diſturbances which have taken place for ſome years paſt in our markets for hiring ſhearers, which certainly, in many inſtances, have been ſlightly noticed.

At Edinburgh market, a party of the town-guard always attend on Mondays; but why are they not commanded by their ſuperiors to ſee that they do their duty when neceſſary? It is not meant that the guard ſhould interfere, in the moſt diſtant degree, in the hiring of ſhearers, but that they ſhould merely keep the peace, and ſee that every one ſhall be at liberty to demand as much, and engage for as little as they incline, without diſturbance of any kind. Whether the peace is kept or not, is a queſtion which can eaſily be anſwered, by every one who attends the market.

Laſt ſeaſon, on the firſt market-day at Mid-Calder, the number of reapers was conſiderable; but the weather being good, and the harveſt coming on faſt, good wages were given, and parties concerned were pleaſed. A few ragamuffins (wiſer no doubt than the reſt) attended at the different avenues from the market-place, and demanded of every one who was going to leave it, the rate of their wages, which, not being to the ſatisfaction of theſe lords of the market, they, by force and maltreatment, drove back their fellows like ſheep into a fold, to the equal diſappointment of the engagers and engaged; and thus the food of man was ſuffered to ſtand expoſed for a week to the precarious viciſſitude of the elements.

On the Monday following, ſeveral gentlemen, two lords, and an earl, attended as Juſtices of the Peace: the conſtables of the neighbourhood, and alſo a party from Edinburgh, were ſummoned to attend. The morning was wet; but theſe gentlemen, much to their credit, remained upon the ſpot for ſeveral hours. When the firſt hands that were engaged began to leave the market-place, the ſame proceedings were attempted by the ſelf-conſtituted governors that had taken place on the former week: two of them were inſtantly ſeized, and ſent in a cart to get the beſt encouragement they could obtain in Edinburgh jail for a week; and, after the period of their engagement had expired, in place of receiving wages, they were fined and diſmiſſed, with a ſtrict injunction, in future, to take all they could get in a fair way, but never to interfere with the free-will of others.

In harveſt 1805, a reſpectable farmer, after having paid his whole reapers the wages that had been ſtipulated, and to all their ſatisfaction, except that of one man, who inſiſted that his wife ſhould have ſomething more than her neighbours, becauſe, as he ſaid, ſhe was a good hand, threatening, if his demand was not complied with, it would be in vain for his employer to expect to get his crop cut down, or to get any more hands, as he would go to the market and prevent it, and that it would be well for him, if, in addition, he ſhould eſcape with his life.

Conſidering that ſuch unmerited threats were not to be paſſed over, this gentleman ſent an expreſs to the commanding officer on the impreſs ſervice, then lying in Leith roads, narrating the circumſtances, deſcribing the culprit, and ſtating where he would be found. A party of the preſs-gang was accordingly ſent to the place of rendezvous, by midnight, who ſeized Paddy, and employed him in the ſervice of his country, without allowing him to uſe threatenings againſt any other than the common enemy.

Theſe inſtances are adduced as an example to others under ſimilar circumſtances, which, were they more generally followed, would contribute to the public proſperity, in place of having the labour of many thouſands of hands loſt, for the greateſt part of, perhaps, a fine harveſt-day, and that, too, ſpent in riot and inſubordination, and, in many caſes, not without blows and bloodſhed.——27. *July.*

Fifeſhire

Fifeſhire Quarterly Report.

DURING this quarter, the weather has not been favourable to the growing crops; exceſſive wetneſs, with cold froſty winds, having prevailed in the firſt part of it, which were afterwards followed by a ſevere drought. Owing to theſe circumſtances, the ſeveral crops were impeded in their growth till the 16th inſtant, when fine rains were received, which have benefited every one of them conſiderably.

The price of cattle has been ſo low, that the rent of graſs land will, in many inſtances, be a dead loſs to the occupiers. It is probable that the rate of rents has reached to the top of the ſcale, and that a reduction of the market value of graſs land will take place next ſeaſon; becauſe the breeding of cattle has gone too far to be profitable; and many people having given it up, the demand for graſs will conſequently be leſſened.

The Farming Society of this county lately publiſhed reſolutions relative to the importation of ſpirits from Ireland, a meaſure, in their opinion, highly injurious to the Scotch diſtilleries. Were it poſſible to prevent ſmuggling in Ireland, little danger need be dreaded from the Iriſh diſtiller; but while the laws againſt ſmuggling cannot be ſtrictly enforced in Ireland, the people of this country are juſtified in oppoſing any meaſure which had for its object the importing of ſpirits upon paying a nominal equalizing duty. The landholders and farmers of Scotland have reaped important advantages from the Scotch diſtilleries; therefore, it becomes their duty to ſupport them by every proper means.——29. *July.*

Roſs-ſhire Quarterly Report.

CROPS of every kind, in this county, threaten to be under an average, excepting on ſoils capable of reſiſting ſevere drought, and under good management; which latter circumſtance is far from being general here. From the beginning of June till the 9th of July, the weather was almoſt invariably dry, attended with cold winds. Since the latter period, a very beneficial change has taken place, although, in many caſes, the crops were ſo far gone, as to be paſt any thing like complete recovery. The dryneſs of the weather was highly favourable for cleaning turnip land; and the ſowing meeting with no interruption, the ſeed was got into the ground earlier than at one time expected. The moiſture of many fields, however, being nearly exhauſted, a partial braird took place till the rains came, which has thrown the major part of the crop later than could be wiſhed. As ſeveral turnip growers loſt their braird, owing to the machines they uſed not laying the ſeed deep enough, it may be obſerved, that the ſeed-conductor ſhould make a rut, ſo as the ſeed may be depoſited about two inches in the earth. Hay partakes of the lightneſs of other crops, but is moſtly ricked in excellent order. Potatoes are likewiſe imperfect. Paſtures ſuffered ſeverely by the drought, and have not yet been ſufficiently moiſtened.

Live ſtock are almoſt unſaleable. A few ſmall droves of cattle, which were bought fully 20 per cent. under laſt year's prices, went

ſouth, and, after all, the drovers are reported to have loſt money on them. Amongſt ſheep, little is doing. At the Beauly market, coarſe wool advanced 6d. per ſtone above laſt year's prices; ſmeared ſelling at 8s., and unſmeared at 10s.

The materials are laying down for building a bridge over the river Conan; and, it is ſaid, the foundation ſtone will be laid in a few days. Mr Fletcher, the contractor, being a gentleman of eminent character in his line, the public may confidently expect a ſubſtantial and valuable edifice.——28. *July.*

Eaſt-Lothian Quarterly Report.

THE laſt week of May, and the two firſt weeks of June, being very wet, occaſioned ſerious injury to the corn crops on clay ſoils, which was only partially removed by the ſubſequent dry weather. On light ſoils, much benefit was received from the rains by every ſpecies of crop; though, afterwards, this benefit was greatly curtailed by the drought which immediately followed.

Taking the crops of the diſtrict in a general point of view, it may be reported, that wheat is rather below par, unleſs where the ſoil is of a deep loamy nature, capable of reſiſting the extremes both of wetneſs and drought. Barley appears to be a medium crop, except on thin clays, where, in fact, this grain ought not to be cultivated. Oats are a ſhort crop almoſt in every ſituation, though appearances were originally very promiſing. Beans flouriſhed during the rains, but were afterwards ſtunted by the drought, and, in numerous inſtances, are imperfectly podded. Potatoes threaten to be deficient, much of the ſeed having rotted by the rains. Turnips brairded irregularly in many places; but, at this early ſtage, nothing poſitive can be ſtated with reſpect to them. Hay is a heavier crop than laſt year, though a want of clover is much complained of; and paſture graſs has yielded full as good a bite as in ordinary ſeaſons.

Markets for grain have remained tolerably ſteady through the quarter, any fluctuation being rather upwards, eſpecially with oats, which are an uncommonly ſcarce article. The ſale of cattle has been dull, and at reduced prices; which, in all probability, will cauſe a heavy loſs to the grazier in every caſe, but eſpecially to thoſe who take graſs for the ſeaſon,—rents this year having gone to a pitch not to be matched, unleſs extraordinary profits were reaped.——1. *Aug.*

ENGLAND.

Letter from a Farmer near Wakefield, July 22.

"THE exceſſive fall of rain during the month of May and beginning of June, did conſiderable injury to all clay ſoils, whether in graſs or corn. The dry land bore it well, and was filled very full of graſs; but the wet land only began to grow when the fine weather commenced; of courſe, the hay crop is variable; but, in general, the clovers are good. The hay is now nearly all ſecured in the rick, and that in the fineſt

fineſt condition poſſible, having only had two ſhowers of rain theſe five weeks, which fell on the 11th and 14th inſtant, and thoſe very ſhort and partial. In conſequence of the drought, our paſtures are ſuffering much, and we are at preſent threatened with ſcarcity of graſs for ſheep and cattle. This fills the markets with half fed beef and mutton, and has occaſioned a conſiderable decline in price. Beef now is worth little more than 6d. per lib. ſink, *except what is very fat.* Mutton and lamb 6½d. and 7d. p. lib. ſink. Our turnips are alſo ſuffering for want of rain, the later ſown ones particularly. There was much land that could not be got in condition on account of the exceſſive rains in May; this was to clean, when the dry weather commenced in June, and being ſo often turned over in the little interval before ſowing, the mould became ſo dry, that much of the ſeed did not vegetate; and where it did vegetate, the plants are ſo weak, that they are dying for want of moiſture. On the contrary, where the land was clean before the rains, and the ſeed put in the ground with deſpatch after ploughing, before moiſture was evaporated, (a moſt eſſential point in the cultivation of turnips), both drilled and broadcaſt are looking well, being at this time in a forward ſtate of hoeing, and apparently free from every diſeaſe. Our grain crops are variable, according to ſoil. The wheat in general appears good throughout the county, and may be eſtimated at preſent above an average crop. Barley alſo pretty good. Beans promiſed well a fortnight ago, having got a tolerable length, and full of bloom; but the drought has in many places brought on the black fly, and the upper bloſſom is falling off in many inſtances, before any pod is formed, which will materially leſſen the produce. Oats are a very failing crop; indeed I never ſaw them at this ſeaſon ſo unpromiſing. The ſtrong clay ſoils are ſo baked, that they cannot ſhoot; even upon the beſt dry land, in the fineſt tilth, they are very ordinary. I believe this is the caſe over the Weſt Riding, great part of which I have ſeen. Oats are getting up in price, alſo very fine wheat; ſtale and ordinary ſamples are ſcarcely ſaleable. Fine wheat 11s. per buſhel. Other ſorts from 8s. 3d. to 9s. 6d. per do. Oats 3s. 6d. to 4s. 3d. per do. Barley, none at market. Beans 5s. 3d. to 6s. per do. Our wool markets are very heavy. Coarſe long wool 10 per cent. lower than laſt year; very fine maintains its price. But in conſequence of the alarming appearance of affairs on the Continent, trade is uncommonly dull, and the people are much out of ſpirits, dreading the impending danger.

'The fat cattle market to-day at Wakefield was much overſtocked, in conſequence of the drought; and a further reduction in price has taken place. Some half-fed beaſts ſold at little more than 6s. per ſtone of 14 lib. ſink offal.'

Norfolk Quarterly Report.

'The ſevere ſtorms of wind, with the cold rains in the months of May and June, and the long and piercing drought which ſucceeded, proved extremely prejudicial to the ſpring crops; and the ſhock then ſuſtained has never been recovered, the light ſandy and gravelly

ſoils

ſoils ſuffering equally with the ſtrong clays. On the former the plant died, or remained pale and ſickly after its firſt promiſing appearance; and on ſome of the very light ſoils, the barley, I fear, even now, has ſcarcely attained ſufficient vigour to ſhoot the ear clear of the ſtem, or, to uſe a provincial phraſe, I am afraid it will 'ſtick in the hoſe.' On the ſtrong lands, a conſiderable portion of the ſeed, though it vegetated, yet not being able to pierce the hard cruſt which the drought had formed on the ſurface, rotted in the ground; and, in ſeveral inſtances, the crop was ſown a ſecond time.

Warm weather, and ſome ſhowers, however, lately fallen, have certainly produced a favourable effect on the general appearance of ſpring corn; and we may perhaps average it at about two thirds of a crop. Wheat will probably completely gratify the ſanguine hopes it had excited during the winter and ſpring months. It appears abundant on all ſoils and ſituations,—uninjured, at preſent, either by blight or mildew, and probably will much exceed the average produce. The reaping-hook will be pretty generally employed upon it in the courſe of a fortnight or three weeks. Peas, white and grey, preſent a moſt miſerable figure. In many ſpots they are totally deſtroyed; in moſt ſituations they are materially; and in all, at leaſt, partially injured by the louſe, and cannot exceed one third of a fair crop. They may be cut even earlier than the wheat; barley harveſt later.

Turnips have ſuffered in ſome few inſtances from the fly, eſpecially thoſe early ſown, but the general appearance is promiſing. Hay is plentiful, both from natural and artificial graſſes, and has been carried to the ſtack in high preſervation.

Indiſpoſition prevented my attendance at Mr Coke's ſheep-ſhearing this year; but I learn that numerous parties of the firſt order of agricultural amateurs were preſent; and it is almoſt needleſs to add, were received with the uſual polite and friendly hoſpitality and attention. Leiceſter tups were ſold cheap, and the South Down let at reduced prices, compared with former years. The Merino is now the rage. Mr Coke has ſold, I am informed, his Merino wool, at 4s. 6d. per pound. This breed of ſheep, or at leaſt a croſs with it, deſerves every encouragement, both on ſelf-intereſted and on patriotic motives, throughout the united kingdoms. With reſpect to the latter conſideration, we ſhall now probably be excluded, by our inveterate enemy, from every foreign market for fine wool; and unleſs we can grow a ſufficient quantity at home, our ſtaple manufacture of ſuperfine cloth muſt, in a very ſhort time, be nearly annihilated, to the great prejudice of the public, and to the utter ruin of many thouſands of individuals. With regard to the former,—ſelf-intereſt, a croſs of the Merino with the South Down or Ryeland, will aſſuredly pay well—moſt liberally—if, as I am fully perſuaded may be the caſe under judicious management, the form of the South Down can be preſerved from material deterioration; for this I have ſeen already effected, in a very eminent degree, though upon a ſmall ſcale, by a very intelligent neighbour, William Horte, Eſq., who has a few ſheep

of

of this croſs with the South Down, which he bred, and which do not diſgrace in form the pure Downs, and from one of which, a very ſmall ewe, he cut 7 lib. of fine wool. Indeed, ſeveral of theſe ewes, even of the firſt croſs, are approaching very near perfection in the carcaſe.

One only of the implements exhibited at Mr Coke's ſhow was deemed entitled to a premium (20l.), and this rather a ſingular one, 'A Fly Catcher.' It is drawn by a labourer over turnips infeſted by the fly. The motion diſturbs the inſect, and every one that riſes is inevitably caught. One man will go over ten acres in a day. I did not ſee, and therefore cannot explain the performance; but ſhould it be found to ſucceed, on repeated trials, no doubt its form, the materials of which it is compoſed, and the method of uſing it, will in due time be laid before the public. The judges were convinced of its utility, and, in conſequence, awarded the premium. The gentleman who obtained the premium for this invention has ſince produced another, of a ſtill more eccentric appellation, 'A Louſe Catcher;' by which, we are told, peas may be cleared of that deſtructive vermin at an expenſe of only 4s. 6d. per acre. Here I wiſh ſome of your readers may not exclaim, 'Credat Judæus,' &c. What pity this ingenious machine did not make its appearance ſome weeks earlier, and ſave from deſtruction ſo many quarters of that moſt valuable pulſe which it promiſes in future to protect!——*July* 23.

Northumberland Quarterly Report.

In the two firſt weeks in May there was ſcarcely a fair day; the third week moſtly fair and hot; on the 25th a moſt violent thunder ſtorm; and the remainder of the month cold, frofty, the hills being deeply covered with ſnow. In the two firſt weeks of June there was alſo much wetneſs; ſince which, little or no rain has fallen, and the drought is beginning to be ſeverely felt.

The conſequences of the above weather were inimical to the fallows; even the dry lands could not be got properly cleaned; and upon the wet ſoils every attempt at ploughing only made matters worſe. The dry ſoils, from the abundance of wet, were in the moſt favourable ſtate for receiving the turnip ſeed, which vegetated immediately; and upon all ſuch ſoils the plants are looking very healthy and promiſing; but upon adheſive loams that were longer of getting ready, a great deal of the ſeed, from the cloddy ſtate of the lands and dry weather, has not yet vegetated; and upon all ſuch land turnips will be an indifferent crop.

The ſame cauſe that was ſo favourable to the turnips upon dry ſoils, has been equally favourable to the hay and corn crops; but upon clay ſoils, and moiſt thin loams, the effect has been the contrary: upon ſuch, the crops of every ſort of grain are looking thin, and the harveſt has an appearance of being late. Hay upon old graſs lands is very abundant; but the clover crops appear deficient from a want of plants, which were probably deſtroyed by the froſts. The corn markets have been lately upon the advance. From the ſmall quantities in the ſtack yards, and appearance of a late harveſt, there is a probability of their

their ſtill being higher. As to ſtock, markets have been regularly declining, for ſome time paſt. Long-woolled hogs were ſold in May 20 *per cent.* lower than laſt year; and at Yetholm fair lambs were from 20 to 30 *per cent.* lower than the year before. Wool is alſo a trifle lower; viz. ſhort wool 1s. 6d. per lib., and long wool 11d. and 11½d.; which is 1½d. or 2d. per lib. lower than laſt year, and about 3d. lower than in 1805. Fat ſtock much the ſame as laſt quarter.—*July* 25.

Lincolnſhire Quarterly Report.

THE fen crops ſuffered ſeverely by the heavy rains of May, not only in this county but in ſeveral of the adjoining ones, whereby ſeveral fields of wheat were nearly deſtroyed. Many corn fields were ſown twice this ſeaſon; conſequently, the crops of this diſtrict muſt be reported as of an inferior deſcription. Latterly, the drought has done great injury to the ſandy ſoils, the crops being thereby ſtunted in their growth. Hay has been finely harveſted. From the diſaſtrous ſtate of affairs on the Continent, the wool trade is much at a ſtand; the little that is ſold of the long combing kind only bringing from 23s. to 25s. per todd of 28 lib. avoirdupois.——*26th July.*

Letter from the Eaſt Riding of York, 27th July.

'AT the time I wrote you laſt, the weather changed from dry to wet, which continued through the month of May and firſt week of June, when it changed to dry, and has continued ſo ever ſince, a few ſlight partial ſhowers excepted. There are now ſome appearance of more, but the ground is ſo much hardened, that it will take a great deal of rain to wet it. Paſtures are very bare, and much burnt. The crops of hay are light upon natural meadows, but heavy upon artificial ones. Wheat is upon the whole a good crop, particularly ſo upon all ſoils that have been well managed; beans are a middling crop; oats very bad; barley decent; and flax below par; the latter article was extenſively ſown, conſequently the breadth of oats is conſiderably reduced thereby. Potatoes were planted in great quantities this year; they are late, but look well where not too early planted. Turnips grow very ſlowly for want of rain, but are not much deſtroyed by the fly or caterpillar. Our grain markets have been very ſteady. Wheat is now ſelling at 75s. to 84s.; Oats 26s. to 34s.; Beans 46s. to 50s. *per* quarter of eight Wincheſter buſhels. Fat cattle 6s. 6d. to 7s. *per* ſtone of 14 lib. ſink; ſheep 6d. *per* lib. ſink. Lean cattle and ſheep have but little ſale, and at a reduction in price of 10 to 15 *per cent.* in the laſt three months.'

Letter from Wales, 27th July.

WE had a moſt favourable ſpring, and the ſowing of corn was finiſhed in good time; but a heavy daſh of rain, in the middle of May, proved extremely hurtful to the oats and barley, and more ſo as it was followed by a ſevere drought, which continued till laſt Tueſday week; on which day we had a fine rain, and it has continued ſhowery ever ſince. Although the corn was, to all appearance, too far advanced to recover, it is amazing what a change there is for the better. The wheat has had a promiſing

promiſing aſpect throughout, and is now looking well. If warm weather continues for ten days, harveſt may then be general in the Vale of Glamorgan. The barley, on the gravelly and light ſoils, will be good; but on the clays it has failed; oats are the worſt crop, being both ſhort and thin, and, though much recovered ſince the rain, will be little more than half a crop. Peas had a promiſing appearance for a long time, but ſtopt at once, and the rains came too late for them; ſome are cut, and the greateſt part will be harveſted in the courſe of this week. Moſt of the hay has been got up in fine order, and the crops are good where the land was in heart. The late rains have been favourable to the turnips, which, in general, are looking well; ſome of them are hoed and others coming on, though ſome fields are ſtill to ſow; the breadth of turnip ground increaſes in this part every year. Potatoes are now thriving, and we have a fair crop of apples. Wool ſells well, *viz.* from 26s. to 36s. per ſtone of 21 pounds, for the wool in the Vale; but the wool on the hills is ſtill higher. Sheep ſell much as laſt year, either fat or ſtore ſheep; lambs are dearer. Cattle have a dull ſale, and prices are at leaſt fifteen *per cent.* lower than laſt year: lean ſtock hangs on hand. Butter 14d. per pound; and good cheeſe of this year's make, as high as 9d. Corn is dull, and, contrary to the general run of years, prices are on the decline; a circumſtance that ſeldom happens here before harveſt. There is but little ſtock on hand in this part; but we have a deal of both wheat and flour from England, and our markets have lately been glutted. There is a great complaint for want of a market for our iron; and, the chief dependence of this diſtrict being on the iron works, were they to decline, the country would ſuffer ſeverely.'

Letter from a Gentleman in Cumberland, 27th July.

'THE appearance of the crops is much improved ſince the late rains. Wheat promiſes, in general, to be good, though in ſome parts of the county it is thin, narrow in the blade, and ſhort in the year, and its height in the ſame field is unequal. Early ſown barley is better than was expected, in conſequence of the long continuance of dry weather: it is certainly an average crop. Oats have, on dry ſoils, been conſiderably injured by the drought, and the potatoe oats is affected with the ſmut in many parts of the county. The drilled crops, which are not numerous, promiſe to be good, particularly the oats and barley, and part of the wheat. The crops of clover and ryegraſs are good;—near Carliſle the beſt they had for ſome time. The meadows are luxuriant, many of them not yet cut. Early potatoes have ſuffered conſiderably from the dry rot. Turnips are *but little ſown* in this county; they are a very unequal crop. Wheat 9s. 3d. *per* buſhel; barley 4s. 10d.; oats 4s.; beans 6s. Fat cattle, 7s. *per* ſtone of 14 lib. There is but a ſlow demand for lean cattle.'

Letter from London, 27th July.

'WITH regard to the preſent crops of grain, that of wheat is undoubtedly a good one in point of quantity; and as we hear very few complaints of injury by mildew, or otherwiſe, there is reaſon to look

for the quality being fine, providing the weather is favourable for houſing it. The continuance of dry weather has undoubtedly done conſiderable injury to ſpring corn in general. As to peas, indeed, they have almoſt entirely failed; and beans appear not likely to be more than two thirds of a crop. Barley is pretty good on ſome of the rich fine lands; but upon all the hot dry ſoils it will be greatly deficient; and we think the ſame may be ſaid of oats. Our importations of the latter article continue ſo large, that, notwithſtanding the great demand, prices will probably give way. The wheat market has diſappointed the general expectation of advance, which, although it cannot be very well accounted for, has, in a great meaſure, been owing to the exceeding large importations of American flour. The ſupply of freſh wheat for this day's market was not very conſiderable; but, as harveſt will in a few days commence pretty generally in the neighbourhood of the metropolis, ſales are dull, and made at reduced prices.

'*State of the London Markets, July* 27.

Wheat, Eſſex	54s. to 62s. to 74s.	
——— Fine White	80s.	
——— Kent	83s.	
——— Norfolk	54s. — 65s.	Fine White to 75s.
——— Berwick	55s. — 60s.	Fine to 70s. Northumberland to 75s.
——— French and Dutch Red	50s. — 58s.	
——— Dantzick and Zealand	50s. — 68s. to 76s.	
——— Black Wheat	53s. — 63s.	
Rye	43s. — 45s.	
Barley	35s. — 40s.	
Malt	60s. — 74s.	Fine Norfolk Boilers to 110s.
White Peas	70s. — 85s.	
Grey ditto	56s. — 60s.	
Pigeon Beans, new	50s. — 53s.	
Tick ditto, new	44s. — 48s.	
Oats, Long Feed	22s. — 25s.	Short Smalls or Friezlands 27s. to 29s. Fine 30s. to 32s.
—— Polands	27s. — 31s.	Fine 32s. to 34s.
—— Potatoe	35s. — 37s. 6d.	(very ſcarce)
Fine Flour delivered to the bakers	65s. per ſack	
Fine Flour by ſhipping	58s.	

Old Rape Seed 21l. to 24l. New 24l. to 26l. per laſt.'

Yorkſhire Quarterly Report.

THE crops of wheat and barley promiſe to produce as well as uſual, if not better: yet the barleys have not ſhot regularly into ear, on account of the great heat and dryneſs of the weather,—of courſe cannot be expected to ripen ſo evenly as might be deſired. The wheats in the different climates of this extenſive county, have generally had as favourable a ſeaſon for their flowering as perhaps was ever known, ſcarcely a ſhower

Fig. 1.

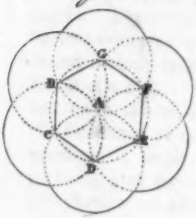


Fig. 2.

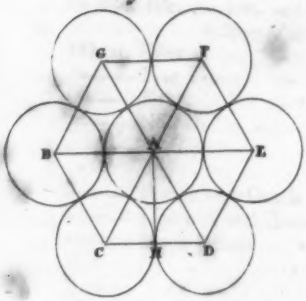
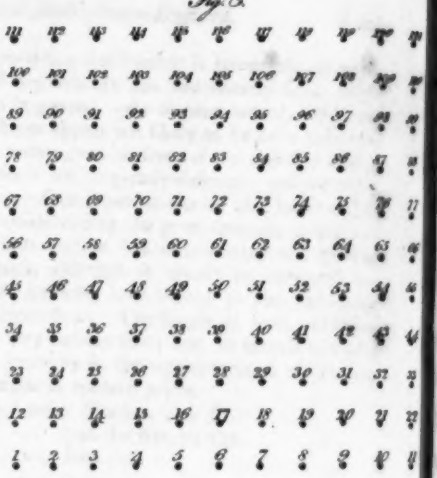


Fig. 3.



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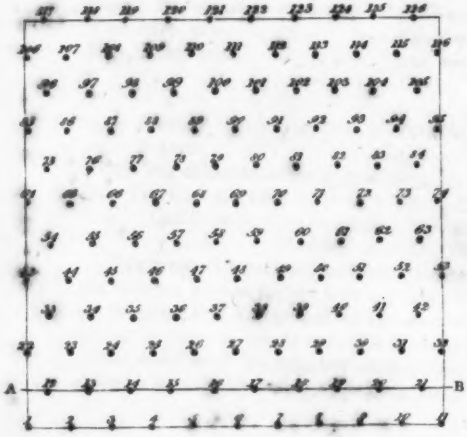

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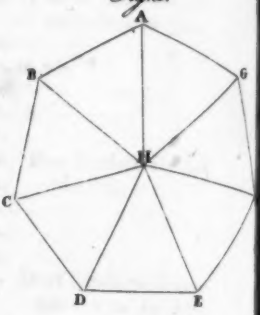
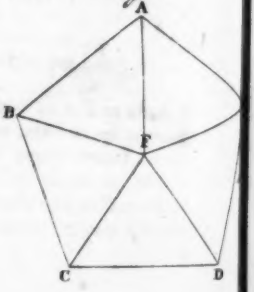


Fig. 6.



er occurring during the whole period of fructification, to obſtruct the complete ripening of the grain. This obſervation applies alſo, in general, to ſuch parts of the midland counties as the reporter could ſee from the road on his return from London a few days ſince. In ſome parts of the counties of Huntingdon, Bedford, Hertford, &c. many fields of wheat and barley will be ready for reaping this week; and, in one field of wheat, the ſickle had begun its work on the morning of the 24th inſtant.

The oats have had too much drought; and the beans and peas, from the extreme heat, and the prevalence of the black lice, &c. have ſuffered materially; yet many good looking crops of the latter are to be found.

Rape and flax are ſhort in ſtem, and not over abundant in ſeed. Potatoes are good and abundant. Of apples, a plentiful ſupply will not be wanting.

The crops of hay and clover have been fuller than uſual; and, for the earlier cutting, it has been one of the beſt curing ſeaſons ever heard of. Some meadows are ſtill uncut in the later diſtricts. The turnips promiſe to plant tolerably well: ſome fields have been hoed once over; but that operation is not in a very advanced ſtate. The ſummer fallows have been neglected from the preſſure of turnip work, occaſioned by the heavy rains in the firſt and ſecond week of June.

The price of grain is at preſent riſing; and, from the aſpect of affairs on the Continent, nothing thence can be looked for to effect the contrary. Whether it may continue to riſe, with the expected importations from America, a little time will ſhow: the probability is, that no adequate ſupply from that part of the world can by any means meet our known deficiency. The beſt Wheat is about 11s.; Oats, 5s.; Beans, 6s. 6d.; and Rye 7s. 6d. per buſhel of Wincheſter.

Fat and lean cattle and ſheep are low; Pigs ſomewhat higher; Beef, Mutton, Veal and Lamb at 7d. per lib.; Butter at 1s.

Wool is declining in value, except ſome of the finer ſorts for clothing. The wools of Lincolnſhire are ſaid to have ſuffered a depreſſion of near 30 *per cent.* from laſt year's price.——*July* 28.

Postscript to Scotish Intelligence.

Letter from Haddington, 12th Auguſt.

'The harveſt will be much earlier than looked for, and has already commenced in the earlier parts of this county, where ſeveral fields of barley are cut down. Generally ſpeaking, it will be two weeks before cloſe harveſt can be expected, even if the weather continues good; though, under preſent circumſtances, there is every reaſon to hope that the winter wheats will, in that period, be ready for the ſickle. Markets are rather on the fall, though the current crop does not, by any means, furniſh a proſpect of a return equal to the ordinary averages. Wheat and barley, though not of great bulk, promiſe to be of excellent quality; but oats, from the drought, are viewed in a different light, being not only deficient in bulk, but imperfectly filled.'

Two eſſays, viz. *on the Conſtruction of Cart Wheels*, and *on the Management of Live Stock*, originally preſented in this Magazine, having recently appeared in a London weekly publication, without any reference to the ſource whence they were borrowed, we are induced to ſtate, that no objection can ariſe on our ſide when other editors are pleaſed to make uſe of our articles, provided the loan is fairly acknowledged. It cannot, however, be viewed as handſome conduct to borrow ſuch articles, even when decked out with the additional words, '*For the* FARMER'S JOURNAL.'

We will be extremely happy to receive a communication from '*Our Conſtant Reader*' on the ſubject mentioned. His other favours will be duly attended to; and in mean time he will be pleaſed to accept of our reſpectful acknowledgments.

The valuable aid of Sir JOHN SINCLAIR Bart. will never be neglected; and we requeſt permiſſion to return our ſincere thanks for the intereſting hints *as to the Means of Preventing the Depopulation of the Highlands*, lately tranſmitted. The earlieſt opportunity will be taken of ſubmitting theſe hints, and the papers on Caithneſs huſbandry, to public conſideration.

The *Recipe for killing Rats and Mice* being of importance, we lament that it reached us too late for inſertion in this Number. At the ſame time, it may be remarked, that many *infallible* remedies againſt theſe vermin have already been offered to the public, while their deſtruction ſeems as diſtant as ever.

A reply to the Paper in No. 28, *on the evil tendency of letting land by the higheſt offer*, is received. We are not quite ſure that our reſpectable correſpondent is correct in all his doctrines, as perhaps we may afterwards attempt to ſhow. In the mean time he ſhall have a fair hearing.

Dr Keith's *Obſervations on the Report of the Gentlemen appointed to inveſtigate the comparative qualities of Engliſh and Scotch barley and bigg, for the purpoſe of malting*, would do honour to any publication, becauſe his obſervations are fair, candid and liberal, and diſplay an intimate knowledge of the ſubject inveſtigated. It was beyond our power to give ſuch an intereſting paper a place in this Number; but, without fail, it ſhall be preſented in our next. An abſtract of Dr Keith's arguments and objections againſt the report of Drs Hope, Coventry and Thomſon, now given, will ſhow the nature of his ſentiments on this important buſineſs.

A Tour through the Highlands, and many other communications received through the quarter, will be duly attended to.

The Inverneſs and Moray Reports, and ſeveral letters of intelligence, were too late in reaching us.

No. XXXII. will be publiſhed on Monday the 9th of November.

D. WILLISON, PRINTER, EDINBURGH.